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1963

COUNTY COUNCIL OF ESSEX

REPORT

OF THE

County Medical Officer of Health

FOR THE YEAR

1963

—

J. A. C. FRANKLIN
M.B., B.S., D.P.H.

COUNTY MEDICAL OFFICER OF HEALTH

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PREFACE

COUNTY HALL
CHELMSFORD
Telephone: CHELMSFORD 3233

October, 1964

To the Chairman, Aldermen and Councillors of the County Council of Essex

Mr. Chairman, Ladies and Gentlemen,

In presenting the seventy-fourth Annual Report of the County Medical Officer of Health, for the year 1963, I should like to explain that the survey covers the last complete year of office of my predecessor, Dr. George G. Stewart, who retired on 31st March, 1964, after 27 years' service with the County Council, nine of which were spent as County Medical Officer of Health.

During these nine years, the population of the Administrative County increased by about a quarter of a million and in June 1963 stood at 1,918,420, an increase of 22,820 on the figure for 1962.

There was a further increase in the birth rate to 17·5 per 1,000 population. This rate has increased each year since 1955, when it was 14·3. The adjusted birth rate of 17·3 per 1,000 population was some 5 per cent. below the national rate.

The stillbirth rate fell for the seventh successive year and now stands at 15·7 per 1,000 total births. Infant mortality remained at the favourable rate of 17·6 and the perinatal mortality rate decreased from 27·7 to 26·5 and has been declining slowly but steadily during recent years. Maternal deaths numbered twelve, giving a maternal mortality rate of 0·35.

The death rate from all causes, at 10·8 per population, was the highest recorded in the county since 1953 but the adjusted rate of 11·6 compared favourably with the national rate of 12·2. The unsatisfactory nature of the overall death rate as a measure of mortality is commented on in the report, which includes a comparison of death rates in 1949-53 and 1959-63. Although the all-ages death rate increased slightly, death rates at specific ages decreased at all ages except for men over 65, and under the age of 45 the decreases were substantial. However, death rates from some causes increased over the ten-year period at most ages. They were for men, cancer of the lung, coronary disease and motor vehicle accidents, and for women, suicide.

In the Report for 1962 some details were given of the Ten-Year Development Plan which the Minister of Health had requested all Local Health and Welfare Authorities to prepare. In 1963, again at the Minister's request, the original Plan underwent its first annual review, as a result of which the total capital expenditure over the financial years 1964-65 to 1973-74 was expected to be £4,936,400. The projects concerned can be summarised as follows:—

(a) 17 Residential Hostels for mentally disordered persons, with accommodation for approximately 470;

(b) 28 Day Training Centres, Sheltered Workshops and other Special Units for mentally disordered and other persons, with over 1,500 places;

(c) 67 Clinics; and extensions or adaptations to 25 existing premises;

(d) 18 Ambulance Stations, and extensions to 2 existing Stations;

(e) 16 Day Nurseries, with a total of 755 places;

(f) One hostel for 12/15, plus a number of units of housing accommodation for staff.

One immediate outcome of the Ten-Year Plan was the decision in principle to second health visitors to the practices of general medical practitioners as and when the staffing position permits. Much thought was given to this question, with its far-reaching possibilities for closer liaison, to the real benefit of the general public, between the family doctor and the local authority health services, and a reference is made in the Report to a small number of experimental schemes, the results of which will no doubt lead to further development if they prove to be successful.

In connection with the Ten-Year Development Plan, in which the importance of close co-operation with voluntary bodies (which had been emphasised by the Ministry), was fully acknowledged by the County Council, a conference was held in November 1963 attended by representatives of voluntary organisations serving the Administrative County. The representatives gave brief details of services provided by their organisations and of future plans, and on behalf of the County Council suggestions were made for extended co-operation with voluntary bodies in various fields.

It was evident at the conference that while successful co-operation existed centrally between the organisations and the County Council, there appeared to be scope for greater co-ordination at local level. Arrangements were accordingly made for conferences to be convened of local representatives of voluntary bodies with a view to improving and expanding present arrangements.

Before I leave the subject of liaison with voluntary organisations, I should like to mention a notable event that occurred during the year under review. I refer to the Centenary celebrations of the British Red Cross Society. The immense amount of work over a wide and varied field carried out in the name of humanity by Red Cross members all over the world in those hundred years is almost beyond imagination.

There is every reason to believe that the scope of voluntary work and wider opportunities for service on the part of voluntary bodies will increase and it is the County Council's policy, in which I whole-heartedly concur, to encourage such help in all those spheres which particularly lend themselves to what one might call "non-statutory" aid.

Although Health Education runs through all our work and in one way or another plays a part in the duties of practically every member of the staff, emphasis must necessarily be given in the Report to specific features of the Department's Health Education facilities and details are given of the extensive programme of lectures, demonstrations, film shows, exhibitions and other features which are helping to make the public more aware of the great importance to them of positive health.

In the realm of Environmental Health, reference is made to the many schemes to provide sewerage and sewage disposal facilities in rural localities submitted for grant purposes during the year. It is unfortunate that progress in some rural districts is limited when compared with that of others.

Refuse disposal is also commented upon in the Report. This presents an ever increasing problem owing to lack of sites for controlled tipping in some districts, difficulty in obtaining satisfactory labour and changes in the character of household refuse.

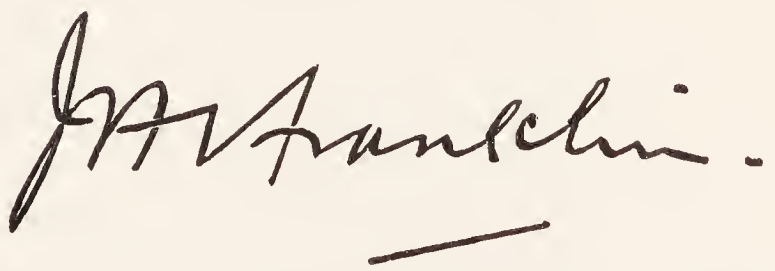
Full details are given in the Report of the continued growth in the Mental Health Service and although two further hostels (for mentally subnormal men and women respectively) were opened during the year it was decided to slow down the future rate of expansion in the field of residential accommodation, until more experience can be gained, because of difficulties in recruiting sufficient and suitable staff for specialised work. As already mentioned, however, it is still planned to provide some 17 additional hostels over the next ten years and this alone will constitute a formidable task.

The Report of the Chief Dental Officer once again shows an improvement in the recruitment of dental officers and although there are still many vacancies the position is better than for many years.

In conclusion, may I express my gratitude to the Chairman and Members of the Health Committee for their unfailing support and to all members of my staff for their continued hard work and loyalty at a time when the preparations for London Government Reorganisation, which will have a far-reaching effect upon the administration of the Local Health Services in Essex, brought about many extra tasks and not a few uncertainties.

I am, Ladies and Gentlemen,

Your obedient Servant,



County Medical Officer of Health

COUNTY COUNCIL OF ESSEX

HEALTH COMMITTEE

(*as at 31st December,* 1963)

Chairman—Alderman K. E. B. GLENNY, *O.B.E.*, J.P.

Vice-Chairman—Councillor Mrs. S. M. BOVILL

County Council Members—

Aldermen—

Mrs. M. Ball
Mrs. M. Bredo
A. E. Brown, J.P.
*G. F. Chaplin, *C.B.E.*, J.P.
J. Martin, *B.E.M.*, J.P.
G. W. Mason
*S. W. Millard
Mrs. E. C. Saywood

Councillors—

F. W. Aylmore
A. C. Berry
Mrs. B. Bottomley, J.P.
W. J. Bowstead, J.P.
Mrs. A. M. M. Burrell
Mrs. G. M. Chamberlin
Mrs. E. Coker
Mrs. M. R. Davey
A. J. Davidson
Mrs. L. Fallaize, J.P.
Mrs. V. M. Grose
E. F. Harris
Mrs. M. J. Harvey
F. H. James
Mrs. J. L. Lock
G. S. B. McNaughton
O. L. Oxley
Mrs. W. M. Palethorpe
Mrs. N. M. Plunkett
J. R. Sweetland
H. R. Turner
C. Verdult
Mrs. V. L. Walton
Mrs. A. E. Welsh
Mrs. N. E. Willis
Mrs. V. L. Wilson
E. T. Wootton
F. A. Wortley
W. R. Wright

Other Members—

Appointed by the County Council—

Mrs. M. M. Davies
Mrs. S. C. M. Godfrey, J.P.
Miss E. M. Tindall, *M.B.E.*

Nominated by Other Bodies—

Dr. H. E. Bach
Mrs. E. L. Baldwin
H. E. Bates, M.M., J.P.
I. T. Brown
Mrs. J. Callan
Mrs. F. M. Cottee
Mrs. B. E. Double, J.P.
Dr. S. C. Emerick
H. A. Girt
Mrs. E. F. M. Hollis
Mrs. L. A. Irons, J.P.
E. W. Marshall
F. R. Masters
Mrs. E. M. Millard
P. S. Saunders
Mrs. E. I. Tivy
A. J. Twigger
Lt.-Col. C. L. Wilson, *O.B.E., M.C., D.L.*

**Ex-officio* Member

STAFF OF THE HEALTH DEPARTMENT

(*as at 31st December, 1963*)

1. CENTRAL OFFICE

County Medical Officer of Health:
GEORGE G. STEWART, M.R.C.S., L.R.C.P., D.P.H.

Deputy County Medical Officer of Health:
J. A. C. FRANKLIN, M.B., B.S., D.P.H.

Principal Senior Medical Officer:
CHRISTINA GRANT, M.B., Ch.B., D.P.H. (Barrister-at-Law)

Senior Medical Officer:
I. B. MILLAR, M.D., B.Ch., B.A.O., D.P.H.

Physician Superintendent, Royal Eastern Counties Hospital:
*RALPH BATES, F.R.C.S., D.P.M.

Chest Physicians:
(Joint appointments with Regional Hospital Boards)
*J. T. BROWN, M.B., Ch.B., D.P.H.
*R. C. COHEN, M.D., B.S., D.P.H.
*H. DUFF PALMER, M.B., Ch.B., D.P.H.
*R. S. FRANCIS, M.D., M.R.C.P.
*M. J. GREENBERG, M.A., M.B., B.Chir., M.R.C.P., M.R.C.S.
*F. KELLERMAN, M.D., L.R.C.P., L.R.C.S.
*VIVIEN U. LUTWYCHE, M.D., M.R.C.P.
*J. T. PATERSON, M.B., Ch.B.
*E. G. PYNE, M.B., Ch.B., D.P.H.
*H. RAMSAY, M.D., B.S., M.R.C.S., L.R.C.P.
*E. G. SITA-LUMSDEN, M.A., M.D., M.R.C.P.
*S. THOMPSON, M.B., Ch.B.
*M. WEINBERGER, M.D.
*E. WOOLF, M.R.C.S., L.R.C.P.

Chief Dental Officer:
J. BYROM, L.D.S.

Superintendent Nursing Officer:
MISS F. S. LEADER, S.R.N., S.C.M., Q.N., H.V. Cert.

Principal Health Visitor Tutor:
MISS K. LYNCH, S.R.F.N., S.R.N., S.C.M., H.V. Cert.

Health Visitor Tutor:
MRS. M. M. SHEN, S.R.N., S.C.M., H.V. Cert.

County Domestic Help Organiser:
MISS G. H. JENKINS

* Part-time officer

County Health Inspector:
S. E. Willis, M.A.P.H.I., M.R.S.H.

Assistant County Health Inspectors:
W. J. Hodgkins, M.A.P.H.I., M.R.S.H.
M. E. Rousell, M.A.P.H.I., A.R.S.H.

Technical Assistant:
A. G. Chambers

Sampling Officer:
L. A. Rowlands

County Ambulance Officer:
W. E. Cooke

Assistant County Ambulance Officers:
J. R. Peacham
A. J. Stewart

Supervising Mental Welfare Officer:
K. M. Skingley

Organiser of Training Centres:
D. J. Norris

Health Education Organiser:
C. E. Williams

Assistant Health Education Organiser:
H. Bradley

Statistician:
W. H. Leak, B.A., F.S.S.

Chief Lay Administrative Assistant:
J. G. Cox

Principal Administrative Assistant:
E. W. Amos

Senior Administrative Assistants:
D. C. Parker
H. Gibson
C. E. Boden

Administrative and Clerical Staff:
62 whole-time and 3 part-time

2. CENTRALLY ADMINISTERED SERVICES

Ambulance Service:

Area Superintendents	9
Assistant Area Superintendents	3
Control Supervisors	2
Controllers	8
Assistant Controllers	8
Control Operatives	15
Clerk Telephonists	14
Station Officers	7
Assistant Station Officers	13
Head Drivers	24
Outposted Officer (London Hospital)	1
Driver Attendants	461
Attendants	5
Area Clerk	1

Mental Health Service:

Senior Psychiatric Social Workers	3
Senior Mental Welfare Officers	7
Mental Welfare Officers	17.7
Trainee Mental Welfare Officers	4
Training Centre Supervisors	16
Training Centre Senior Assistant Supervisors	9
Training Centre Assistant Supervisors	25
Training Centre Assistants	23
Training Centre Assistant Instructors	16
Hostel Wardens	4
Hostel Assistant Wardens	13

Training Homes for Home Nurses and Midwives:

Superintendent	1
Deputy Superintendent	1
Other Nursing Staff	92*
Student District Nurses	4
Pupil Midwives (Part II)	19
Clerical and Administrative Staff	4†

* Includes 11 part-time employees

† Includes 1 part-time employee

3. MEDICAL OFFICERS OF HEALTH OF AUTHORITIES WITH DELEGATED POWERS

Colchester M.B.C.	*John D. Kershaw, M.D., B.S., D.P.H.
Basildon U.D.C.	*P. X. O'Dwyer, M.B., B.Ch., D.P.H.

* Part-time Officer

4. AREA MEDICAL OFFICERS

North-East Essex	*John D. Kershaw, M.D., B.S., D.P.H.
Mid-Essex	*J. L. Miller Wood, V.R.D., M.R.C.S., L.R.C.P., D.P.H.
South-East Essex	*Alfred Yarrow, M.B., Ch.B., D.P.H.
South Essex	*R. D. Pearce, M.R.C.S., L.R.C.P., D.P.H.
Forest	*F. G. Brown, T.D., M.B., B.Ch., B.A.O., D.P.H.
Romford	*F. Groarke, M.B., L.M., D.C.H., D.P.H.
Barking	*Margaret I. Adamson, M.B., Ch.B., D.P.H.
Dagenham	*J. Adrian Gillet, M.B., Ch.B., D.P.H., F.R.S.H.
Ilford	*I. Gordon, M.D., Ch.B., M.R.C.P., D.P.H.
Leyton	*E. W. Wright, M.B., Ch.B., D.P.H.
Walthamstow	*M. Watkins, M.R.C.S., L.R.C.P., D.P.H.
Harlow	*I. Ash, M.D., D.P.H.

*Part-time Officer

5. DELEGATED AND DECENTRALISED SERVICES

	Establishment	*No. employed (equivalent whole-time)*
Administrative and Clerical	283.5	273.3
Area Dental Officers	14	10
Assistant County Medical Officers	62.5	58.18
Chiropodists	73.4	47.9
Clinic Clerks	68.0	67.7
Day Nursery Matrons	21	21
Day Nursery Deputy Matrons	20	19
Day Nursery Wardens	20	19
Day Nursery Nurses and Nursery Assistants	146	90
Day Nursery Students in training		92 *
Dental Surgery Assistants	88.3	60.9
Dental Officers	88	48.5
Dental Technicians	9	7
Domestic Helps	—	1,244.5
Domestic Help Organisers	27	27
Health Visitors, Tuberculosis Visitors and Clinic Nurses	375.5	354.5
Mental Welfare Officers	3.1	2.3
Midwives, Home Nurse Midwives and Home Nurses	456	397.4
Non-Medical Supervisors of Midwives and Superintendents of Home Nurses	9	9
Occupational Therapists	2	1
Oral (Dental) Hygienists	2	—
Superintendent Health Visitors	12	12
Training Centre Supervisors	2	2
Training Centre Senior Assistant Supervisor	1	1
Training Centre Assistant Supervisors and Assistants	6	6
Training Centre Assistant Instructors	2	2

* 3 Students equivalent to 1 Nursery Nurse or Nursery Assistant

SECTION I—STATISTICAL

Vital Statistics

As requested by the Ministry of Health, certain vital statistics relating to mothers and infants are given below. The statistics for 1962 are also given for comparative purposes :—

	1963	1962
Live Births—		
Number	33,561	32,162
Rate (per 1,000 population)	17.5	17.0
Percentage registered as illegitimate	4.7	4.6
Stillbirths—		
Number	537	534
Rate (per 1,000 births)	15.7	16.3
Total Births (live and still)	34,098	32,696
Infant Mortality—		
Number of deaths under one year	589	566
Rate per 1,000 live births (all infants)	17.6	17.6
Rate per 1,000 live births (legitimate infants)	17.3	17.5
Rate per 1,000 live births (illegitimate infants)	22.2	19.8
Neonatal (first four weeks) mortality rate	12.5	13.1
Early neonatal (first week) mortality rate	10.9	11.5
Perinatal (stillbirths and first week) mortality rate	26.5	27.7
Maternal mortality (including abortion)—		
Number of deaths	12	12
Rate per 1,000 total births	0.35	0.37

Most of these statistics are commented upon in detail elsewhere in this Report. In Table I on page 115 will be seen details of the population and principal vital statistics for Health Areas and County Districts including the two Districts with delegated powers. Details of deaths by cause are given for different age groups in Table II and for County Districts in Table III. As in previous years, difficulty was experienced in calculating vital statistics for the Mid-Essex and Forest Health Areas due to the fact that each includes part of the Epping and Ongar Rural District. In general, vital statistics given for these two Health Areas refer to the Area less the portion of Epping and Ongar Rural District contained in it and in the tables the figures for the Rural District are given separately. Figures for the Administrative County are unaffected by this arrangement.

The remainder of this section is devoted largely to a discussion of the figures in Table I, II and III.

Population

During the year the County Volume of the 1961 Census Report was published and this gave the census population of the Administrative County as 1,859,916. One of the most interesting of the tables in the County Volume

from the standpoint of a Medical Officer of Health is that giving the age distribution in each administrative area. In the County as a whole the population increased at all ages during the ten years between the 1951 and the 1961 census. Seven boroughs in metropolitan Essex suffered decreases of population and the area comprising these boroughs (Barking, Chingford, Dagenham, Ilford, Leyton, Walthamstow and Wanstead and Woodford) has been considered separately from that of the remainder of the County. Figure 1 on page 127 compares the population of these two areas in 1951 and 1961 for each sex and ten age groups. The population of the seven boroughs decreased under the age of 50 and increased over that age. There was a particularly large decrease in the number of adults between 25 and 45 and of pre-school age children. For the remainder of the county, there were substantial increases in population at all ages, the increases being most marked for children (especially those of school age) and adults between 25 and 55.

The Registrar General's estimated mid-1963 population of the Administrative County was 1,918,420 compared with 1,895,600 a year previously, an increase over the year of 22,820. The natural increase in the population was about 13,000 leaving a balance of inward over outward migration of nearly 10,000. The Registrar General's estimate of the population of, and the estimated net migration into, each County district is given in Table I. Nett migration into the county was estimated to be only about one-half of that for the previous year. This appears to have been caused by an increase in migration out of the part of Essex in Greater London and a moderate decrease of migration into the remainder of the County. But it is possible that the explanation is that the population in 1962 was over-estimated and the 1963 figure incorporates a correction, with the result that migration during the year is underestimated.

Births

The number of *live births* registered during the year was 33,561 giving a crude live birth rate of 17·5 compared with 17·0 in 1962 and 16·8 in 1961. The birth rate has now increased every year since 1955 when it stood at 14·3 per 1,000 population.

For comparison with the rate for England and Wales, it is possible to make an adjustment for the way in which the sex and age distribution of the local population differs from that of England and Wales. The adjusted rate for the County was 17·3 compared with a national rate of 18·2. The birth rate increased in most Health Areas but decreased in Harlow where it had been exceptionally high and also marginally in Dagenham.

The number of births registered as *illegitimate* was 1,606 (32 of which were stillborn). This was 4·7 per cent. of the total number of births compared with 4·6 per cent. in 1962 and 4·2 per cent. in 1961. The illegitimate rate in Essex remained below that for the country as a whole.

There were 537 *stillbirths* registered during the year (534 in 1962) giving a stillbirth rate of 15·7 per 1,000 total births compared with rates of 16·3 in 1962 and 16·6 in 1961. The stillbirth rate has fallen every year since 1957 when it stood at 21·1.

The number of *premature* births notified was 2,245 (295 of which were stillborn) compared with 2,076 in 1962. The number of premature births expressed as a percentage of total births for the last ten years is as follows :—

1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
6.9	6.6	6.6	6.8	6.4	6.5	6.7	6.5	6.3	6.6

The percentage of babies weighing 5½lbs. or less at birth has varied very little in the last ten years and the figure for 1963 was average for the period. The percentage of babies in each weight group has also remained fairly constant, 46 per cent. weighing over 5 lbs. and only about 16 per cent. under 3 lb. 4 oz.

Perinatal Mortality

The perinatal mortality rate was 26·5 per 1,000 total births compared with 27·7 in the previous year. This was the lowest rate ever recorded in the County. The figures for the past ten years are as follows :—

1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
35.2	35.6	30.5	32.8	29.2	30.4	29.0	28.9	27.7	26.5

Comparing 1963 with earlier years, the perinatal mortality rate remained at approximately the same level for the smaller premature infants (those under 4 lb. 6 oz.) but continued to decline for the larger premature and mature infants.

Birth Weight	*Perinatal Mortality Rate per 1,000 births*			
	1958-60	1961	1962	1963
3 lb. 4 oz. or less	764	777	739	760
3 lb. 5 oz.—4 lb. 6 oz.	336	313	350	318
4 lb. 7 oz.—4 lb. 11 oz.	139	123	119	112
5 lb. 0 oz.—5 lb. 8 oz.	80	81	75	70
Over 5 lb. 8 oz.	14	13	13	12
All weights	29	29	28	26

Infant Mortality

There were 589 deaths of infants under one year of age giving an infant mortality rate of 17·6 per 1,000 live births, the same rate as in 1962. The following table sets out for the last eight years mortality rates per 1,000 live births in various periods of the first year of life :—

	1956	1957	1958	1959	1960	1961	1962	1963
Early neonatal mortality (first week)	11.4	12.0	11.1	12.8	11.9	12.5	11.5	10.9
Late neonatal mortality (second, third and fourth weeks)	3.4	1.7	1.8	1.9	1.8	1.3	1.6	1.6
Neonatal mortality (first four weeks)	14.8	13.7	12.9	14.8	13.7	13.8	13.1	12.5
Post-neonatal mortality (one month to one year)	5.5	5.6	4.8	5.2	5.0	4.7	4.5	5.0
Infant mortality	20.3	19.3	17.7	20.0	18.6	18.5	17.6	17.6

Early neonatal mortality declined but mortality after the first month increased slightly. Most of this increase was in deaths ascribed to pneumonia. The infant death rate from pneumonia increased from 1·6 to 2·0 per 1,000 births but the 1963 rate remained below the rate for all years before 1961.

Mortality of Children

The following table sets out the number of deaths and the death rates of children between 1 and 5 and between 5 and 15 years in the last eight years.

	Age	1956	1957	1958	1959	1960	1961	1962	1963
Number of deaths	1-4	85	104	98	103	78	89	97	100
	5-14	102	111	103	107	103	92	87	99
Death rate per 1,000 children	1-4	0.83	0.99	0.91	0.93	0.67	0.74	0.77	0.78
	5-14	0.37	0.39	0.36	0.37	0.35	0.31	0.31	0.35

Death rates in 1963 were somewhat higher than in recent years but less than in years previous to 1960.

Deaths from all causes

The number of deaths registered during the year (after adjustment for inward and outward transfers) was 20,628 compared with 19,945 in 1962 and 19,418 in 1961. The crude death rate was 10·8 per 1,000 population compared with 10·5 in 1962 and 10·4 in 1961 and is the highest death rate since 1953.

The adjusted death rate (i.e. the rate comparable with adjusted rates for other areas and with the crude rate for England and Wales) was 11·6 compared with the England and Wales rate of 12·2.

The death rate increased in most Health Areas but in Leyton, the Forest Area, Harlow and Colchester, there was a decrease. The figures at the foot of Table II on page 116 show that the number of deaths increased in each age group except for women between 15 and 65 years of age.

The publication in the County Census volume of the age distribution of the population enumerated at the 1961 census makes possible a comparison of the mortality in a recent period with that ten years earlier. The following table shows the average annual death rate per 1,000 population at different ages during the quinquennium 1959-63 and the ratio of the male to the female rate.

	0—	1—	5—	15—	25—	45—	65—	75—	*All Ages*
Males	20.69	0.87	0.39	0.94	1.48	11.93	50.81	136.58	11.01
Females	15.91	0.75	0.27	0.35	1.13	6.65	28.18	103.46	9.89
Ratio of male to female rate	1.30	1.15	1.48	2.66	1.31	1.79	1.80	1.32	1.11

Mortality rates for both sexes were lowest at school age and at all ages male was heavier than female mortality. The all-ages male to female ratio of 1·11 understates the difference between the mortality of the sexes as the ratio was lowest at 1·15 between the ages of 1 and 5 and rose to 1·8 between 45 and 75 while between 15 and 25 it reached 2·66. This last figure is associated with the many more fatal accidents sustained by men than women of this age. The following table gives the above rates as a percentage of the similar rates in 1949-53.

	0—	1—	5—	15—	25—	45—	65—	75—	*All Ages*
Males	79	75	68	91	80	97	102	100	99
Females	77	77	67	57	73	90	93	96	104

Owing to the ageing of the population, the all-ages rates give a completely false picture. Under the age of 45 death rates generally have declined considerably by 20% or more. The only exception to this is young men between 15 and 25 whose mortality has only decreased by 9 per cent. Over the age of 45 there has been very little change in mortality for men and a moderate reduction for women. With one minor exception mortality has decreased by a larger proportion for females than for males.

The provision by the Registrar General in recent years of the age distribution of deaths in County Districts with populations of over 75,000 makes possible some valid assessment of the variation in mortality throughout the County. The following table gives for eight districts and the remainder of the administrative county, death rates in 1959-63 between 25 and 75 as a percentage of those in the county as a whole.

	Males			*Females*			*Average Percentage*
	25-44	45-64	65-74	25-44	45-64	65-74	
Barking M.B.	141	112	110	111	117	92	113
Dagenham M.B.	120	123	104	111	103	100	110
Hornchurch U.D.	86	98	103	84	96	102	95
Ilford M.B.	106	102	105	108	102	110	106
Leyton M.B.	111	116	113	128	105	110	112
Romford M.B.	107	95	98	90	90	100	97
Thurrock U.D.	111	94	96	109	101	96	102
Walthamstow M.B.	99	101	101	102	95	101	100
Remainder of County	93	95	96	97	99	98	96

Mortality rates exceeded the county rates by 10% or more for the average of the six age groups in the Boroughs of Barking, Dagenham and Leyton and mostly male rates exceeded the county average by more than female rates. In the Borough of Ilford, rates were all above the County average but by lesser amounts. In the Borough of Walthamstow and the Urban District of Thurrock some rates were above average and others below and the overall result was mortality close to the county average. The high rates for men and women between 25 and 45 years of age in Thurrock Urban District are worthy of comment especially as there were similar high rates for younger age groups.

Mortality rates in Thurrock Urban District as a percentage of the County rate were as follows :—

Males	...	...	5 — 14	...	160
,,	...	...	15 — 24	...	139
Females	...	...	5 — 14	...	156
,,	...	...	15 — 24	...	113

In the Borough of Romford and the Urban District of Hornchurch mortality was generally below average and was particularly low in Hornchurch under the age of 45. In the remainder of the county, mortality was consistently below the county average by about 5% for males and 2% for females.

Tuberculosis Deaths

Deaths from tuberculosis numbered 89 of which 5 were non-respiratory compared with 109 (10 non-respiratory) in 1962 and 97 (12 non-respiratory) in 1961. The following table shows the average annual death rate from all forms of tuberculosis at different periods of life in 1949-53 and 1959-63 and the percentage the latter bears to the former.

Age Group	*Average tuberculosis death rate per 100,000 in 1949-53*		*Average tuberculosis death rate per 100,000 in 1959-63*		*Death rate in 1959-63 as a percentage of that in 1949-53*	
	Males	*Females*	*Males*	*Females*	*Males*	*Females*
0-14	3	4	0.1	0.2	3	5
15-24	11	18	0.3	0.7	3	4
25-44	28	26	3	3	11	11
45-64	64	18	14	5	22	28
65-74	86	19	44	6	51	34
75 and over	52	15	39	9	75	61
All Ages	33	17	8	3	25	18

Mortality of children and young adults from tuberculosis is now extremely small (9 deaths in 1959-63 compared with 232 in 1949-53). There have been substantial reductions in mortality among older adults especially those below retiring age.

Cancer Deaths

Deaths from malignant neoplasms (all sites, including leukaemia) in the County during the last ten years are set out below :—

Site	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Stomach	451	493	492	470	484	532	507	461	527	450
Lung & bronchus	637	653	755	788	751	881	898	935	950	1,042
Breast	308	323	338	355	337	368	387	385	376	387
Uterus	106	132	119	113	127	130	138	134	128	128
Other sites	1,589	1,616	1,631	1,734	1,669	1,736	1,759	1,800	1,925	1,864
Leukaemia & aleukaemia	91	109	106	86	125	112	121	109	99	103
All sites	3,182	3,326	3,441	3,546	3,493	3,759	3,810	3,824	4,005	3,974

There was a further increase in deaths from cancer of the lung but other cancer deaths remained at average or below average values. The following table gives average death rates by age in 1959-63 and the percentage that

these rates bear to the corresponding rates in 1949-53 for the principal cancer sites (excluding leukaemia).

Site	Sex	*Average death rate per 100,000 in 1959-63*				*Death rate in 1959-63 as a percentage of that in 1949-53*			
		25-44	45-64	65-74	75 & over	25-44	45-64	65-74	75 & over
Stomach	M	3	49	175	270	80	82	88	96
	F	2	19	89	181	77	77	91	78
Lung and bronchus	M	8	177	490	420	79	133	207	237
	F	3	23	60	70	133	123	155	175
Breast	F	12	73	110	178	90	116	109	109
Uterus	F	5	21	47	67	115	81	100	124
Others	M	19	135	525	1177	91	103	93	95
	F	19	112	309	576	107	95	103	94
All sites	M	31	361	1190	1868	86	112	119	110
	F	40	248	616	1072	101	99	105	97

Mortality from cancer was heavier for males than for females over the age of 45 both for all sites combined and for each of the specified sites common to each sex. Over 65 years of age, the death rate for males approached twice that for females. For lung cancer, it was eight times between 65 and 75 and six times at over 75 year of age.

During the last ten years, mortality of men between 25 and 45 has decreased but there have been substantial increases among older men almost entirely due to the very rapid rise in mortality from lung cancer. For females, the overall cancer death rate has not changed very much but mortality from cancers of the lung and breast has increased. The only site to show consistent reductions in mortality over the period was the stomach. Death rates from stomach cancer have declined by about 20 per cent. under the age of 65 and a rather smaller percentage at more advanced ages.

Mortality rates per 100,000 from leukaemia and aleukaemia are given in the following table.

	Males					*Females*				
	0-14	15-44	45-64	65-74	75 & over	0-14	15-44	45-64	65-74	75 & over
Average death rate 1949-53	4	2	8	19	36	3	2	3	11	10
Average death rate 1959-63	4	2	8	24	38	3	2	6	15	17

Mortality has only increased among older adults, the increases for women being larger than those for men, but the leukaemia death rate remained higher for men than for women.

Death from Diseases of the Circulatory System

The numbers of deaths from diseases of the circulatory system, including vascular lesions of the nervous system in the last ten years were as follows:—

Cause	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Vascular lesions of nervous system	2,168	2,274	2,460	2,382	2,365	2,426	2,443	2,619	2,699	2,764
Coronary disease, angina	2,422	2,506	2,653	2,794	3,006	3,102	3,270	3,451	3,923	4,045
Other heart diseases	2,862	3,010	3,135	2,904	2,955	2,816	2,609	2,676	2,466	2,381
Other circulatory diseases	748	760	795	768	795	836	883	929	902	937
TOTAL	8,200	8,550	9,043	8,848	9,121	9,180	9,205	9,675	9,990	10,127

Total deaths in this group have increased steadily year by year with an increasing proportion of the deaths being attributed to coronary disease. The increase in total deaths from 1962 to 1963 was not so large as in the previous two years but deaths from three of the four cause groups increased. The following table shows for each of these groups average annual death rates by age in 1959-63 and the percentage that these rates bear to the corresponding rate in 1949-53.

Cause	*Sex*	*Average death rate per 100,000 in 1959-63*				*Death rate in 1959-63 as a percentage of that in 1949-53*			
		25-44	45-64	65-74	75 & over	25-44	45-64	65-74	75 & over
Vascular lesions of nervous system	M	5	82	551	1986	122	98	96	109
	F	6	83	479	2023	105	85	93	115
Coronary disease, angina	M	25	348	1327	2458	172	143	145	151
	F	2	81	565	1453	160	138	139	164
Other heart diseases	M	9	56	400	2280	67	56	52	58
	F	10	58	341	2300	67	55	53	62
Other circulatory diseases	M	4	38	200	783	130	107	113	112
	F	2	24	139	650	89	100	102	120
All diseases above	M	44	524	2479	7507	122	113	102	93
	F	21	246	1523	6426	83	87	90	93

Taking this group as a whole, mortality rates have risen for young and middle-aged men but not for older men. For women there has been a decrease

in mortality which has been more pronounced for the younger women. When individual causes are examined this marked difference between the sexes largely disappears. Thus, there has been at all ages a large increase in mortality attributed to coronary disease and a considerable reduction in mortality attributed to other heart diseases. The percentage change has in each case been approximately the same for women as for men. Mortality attributed to vascular lesions of the nervous system has increased at each end of the age scale and decreased between 45 and 75 years of age.

The explanation of this apparent discrepancy appears to lie in the much higher male mortality from coronary disease. Although the percentage increase has been similar for each sex, mortality from coronary disease was much higher for men in 1949-53 and the increased number of deaths was not as for females (see figure 2 on page 128) completely offset by the reduction in deaths from other forms of heart disease. While some part of the apparent increase in mortality from coronary disease may be due to an increasing tendency for doctors to certify death to this cause, the increase in total circulatory disease mortality in men does suggest that a substantial part of the increase, at least in men under 65 years of age, is real.

Deaths from Diseases of the Respiratory System

The following table sets out the number of deaths during the last ten years ascribed to influenza, pneumonia, bronchitis and other respiratory diseases.

Cause	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Influenza	40	80	97	226	93	249	31	181	93	77
Pneumonia	720	883	868	927	970	1,174	1,010	1,206	1,353	1,626
Bronchitis	746	893	1,051	910	1,009	968	855	1,092	1,076	1,251
Other respiratory diseases	148	168	156	155	175	184	165	169	151	190
TOTAL	1,654	2,024	2,172	2,218	2,247	2,575	2,061	2,648	2,673	3,144

The numbers of deaths from respiratory disease were at a particularly high level in 1963 due to sharp increases in the number of deaths attributed to pneumonia and bronchitis. On the other hand deaths from influenza were less numerous than usual. Seventy-one per cent. of the increased deaths were in those over 75 years of age. Death rates in 1959-63 and their relationship with those a decade earlier are given in the following table :

Cause	Sex	Average death rate per 100,000 in 1959-63				Death rate in 1959-63 as a percentage of that in 1949-53			
		25-44	45-64	65-74	75 & over	25-44	45-64	65-74	75 & over
Influenza	M	1	8	28	80	50	74	47	55
	F	1	4	14	80	73	98	38	53
Pneumonia	M	4	35	251	1,252	93	84	138	164
	F	4	20	153	942	122	107	142	166
Bronchitis	M	1	80	494	1,066	47	83	118	102
	F	1	16	92	387	38	83	62	59
Other respiratory diseases	M	2	15	69	117	64	69	128	139
	F	1	5	15	63	50	84	70	79
All above diseases	M	8	137	841	2,516	68	81	118	136
	F	7	44	274	1,472	78	94	90	104

Although males under 65 had a larger percentage decrease than females in the overall mortality from respiratory diseases, their death rate remained higher. Between 45 and 75 male death rates were more than three times female rates and for bronchitis they were five times as high. There were very substantial increases in the death rate of older people from pneumonia. In females this increase was offset by decreases in the death rate from bronchitis. As a result there was little change in the overall death rate for females but for males there were substantial increases as bronchitis death rates also rose.

Maternal Deaths

There were 12 maternal deaths, the same number as in 1962. The maternal mortality rate per 1,000 total births was 0·35 compared with 0·37 in 1962 and an average rate for the years 1957-61 of 0·28.

Accidental deaths and Suicide

The trend in the number of deaths from accidents and suicide in the last ten years is as follows :—

	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Motor vehicle accidents	149	162	167	163	174	193	223	213	215	214
Other accidents	262	273	298	312	308	295	298	289	317	346
Suicide	167	170	214	174	190	173	185	160	176	222

There were sharp increases in the number of deaths from "other accidents" and suicide. Most of the increase in suicides was in men for whom the 1960-62 rate was well below the national average. Death rates from accidents in 1959-63 are compared with those in 1949-53 in the following table :

Age	*Average death rate per 100,000 in 1959-63*				*Death rate in 1959-63 as a percentage of that in 1949-53*			
	Motor vehicle accidents		*Other accidents*		*Motor vehicle accidents*		*Other accidents*	
	Males	*Females*	*Males*	*Females*	*Males*	*Females*	*Males*	*Females*
Under 1	—	—	53	19	—	—	68	23
1 — 4	5	3	10	7	118	64	57	84
5 — 14	7	3	5	1	69	70	73	63
15 — 24	37	5	12	2	137	126	79	67
25 — 44	13	2	12	2	121	218	89	84
45 — 64	16	7	15	8	144	238	95	90
65 — 74	25	12	28	32	107	148	84	98
75 & over	68	25	152	193	126	135	118	126

The number of deaths on which these rates have been calculated is small in some age groups and too much reliance should not be placed on small differences in the rates but this table does show some clear trends. For example, death rates from motor vehicle accidents were higher for males than for females at all ages. The death rate of boys from such accidents was twice that for girls while for adults under 45, the male rate was some seven times the female rate. During the last ten years, the mortality rate from motor vehicle accidents has increased at all adult ages and that from other accidents has decreased except for the very old.

The figures for suicide are as follows :—

	Average death rate per 100,000 in 1959-63					*Death rate in 1959-63 as a percentage of that in 1949-53*				
	15-24	25-44	45-64	65-74	75 & over	15-24	25-44	45-64	65-74	75 & over
Males	5	9	19	29	28	120	97	88	91	63
Females	2	8	18	18	12	154	139	142	157	135

The incidence of suicide has decreased over the last ten years for men over the age of 25 but has increased for younger men and for women of all ages. Suicide rates were similar for each sex between 25 and 65 years of age but over 65 suicide was much commoner among men than among women.

Other causes of death

The following table gives death rates for diabetes, peptic ulcer, nephritis and nephrosis and hyperplasia of the prostate in 1959-63.

Cause	*Sex*	*Average death rate per 100,000 in 1959-63*				*Death rate in 1959-63 as a percentage of that in 1949-53*			
		25-44	45-64	65-74	75 & over	25-44	45-64	65-74	75 & over
Diabetes	M	1	5	29	78	125	114	101	138
	F	1	6	40	88	60	90	101	107
Ulcer of stomach	M	1	12	65	146	35	37	68	105
and duodenum.....	F	1	3	18	67	54	55	83	123
Nephritis and	M	3	8	25	54	46	54	66	54
nephrosis	F	3	5	13	39	55	41	43	65
Hyperplasia of	M	—	2	41	275	—	49	41	63
prostate									

Death rates from diabetes were higher for females than for males but at most ages the difference was less than ten years ago. Mortality from peptic ulcer has fallen considerably except for the aged, male rates being some four times female rates between 45 and 75 years of age. Mortality rates from nephritis and nephrosis and hyperplasia of the prostate have fallen at all ages.

Death rates below 25 and 65 years of age

Mortality rates for 1949-53 and 1959-63 are illustrated for two important age groups in Figure 2 on page 128. The two age groups have different scales but comparison is possible between the sexes and the two periods within each age group and the relative importance of various causes of death can be assessed.

Morbidity

The number of new claims for sickness benefit received in the 52 weeks ended 31st December, 1963, at local offices of the Ministry of Pensions and National Insurance in the Administrative County was 305,618.

The figures (in thousands) for the last ten years were as follows :—

1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
206.3	233.1	235.1	299.4	243.6	278.3	251.5	283.6	289.7	305.6

The number of new claims in 1963 was the highest yet recorded exceeding even that in 1957, the year of the first Asian influenza epidemic. The following table gives the average number of claims per week each quarter for recent years.

Year	*January-March*	*April-June*	*July-September*	*October-December*
1958	6,882	3,793	3,173	5,090
1959	9,476	3,779	3,388	5,423
1960	6,287	4,193	3,553	5,477
1961	8,568	4,144	3,534	5,927
1962	8,395	4,760	3,682	5,731
1963	9,567	4,663	3,918	5,738

There is a general tendency for an increase in new claims each year but even after this has been taken into account, it is clear that incapacity for work was at a very high level in the first quarter of the year and also above average for the time of the year in the third quarter. Figures for individual weeks of the first quarter show that the number of claims was above average from late January until mid-March but the weekly number never reached the levels recorded at the peak of the epidemics in 1959 and 1961.

SECTION II—GENERAL

STAFF

Central Office

The post of Senior Medical Officer for Mental Health, vacated by Dr. J. G. Fife in 1962, was regraded and re-designated Principal Senior Medical Officer after a number of advertisements brought no suitable response. The post remained vacant at the end of the year.

Mr. A. L. Barton, Supervising Mental Welfare Officer, retired on the grounds of ill-health on 31st October, 1963. In view of the creation, in 1962, of posts of Senior Psychiatric Social Worker and Senior Mental Welfare Officer to serve the Mental Health Sub-Offices, it was decided that the post of Assistant Supervising Mental Welfare Officer should be deleted from the establishment of the Health Department. The occupant of this post, Mr. K. M. Skingley, was promoted to the post of Supervising Mental Welfare Officer and took up duties on 1st November, 1963.

Combined Medical Services

As stated in the Annual Report for 1962, agreement was reached with the District Councils concerned on the creation of a post of Deputy Medical Officer of Health of the Epping Urban, Harlow Urban, and Epping and Ongar Rural Districts and Assistant County Medical Officer of Health. This post was considered necessary because of the increased demand on the time of the Medical Officer of Health, Dr. I. Ash, by the County Council, following his appointment

as Area Medical Officer for the Harlow Health Area. Dr. A. G. Poulsen-Hanson, formerly Assistant County Medical Officer of Health, Middlesex County Council, was appointed to the new post and commenced duty on 1st April, 1963.

Dr. D. T. Jones resigned from the post of Medical Officer of Health of the Brentwood Urban District and Assistant County Medical Officer of Health with effect from 31st May, 1963. He was succeeded by Dr. J. R. R. Wray, on 4th November, 1963. Dr. Wray previously held senior administrative appointments in Kenya.

Assistant County Medical Officers of Health

Nine whole-time Assistant County Medical Officers resigned during the year. Seven of the resulting vacancies were filled without difficulty and arrangements were in hand to fill the remaining two at the end of the year.

Other Staff

In last year's Report it was mentioned that it had been possible to fill only two of the seven posts of Senior Psychiatric Social Worker created in the previous year. One further appointment was made in 1963 but four vacancies remained.

Seven permanent posts of Senior Mental Welfare Officer were created during the year, one for each of the Sub-Offices. All the posts were filled in 1963, four of the officers concerned having previously occupied the temporary posts created in the previous year.

Eight further posts of Trainee Mental Welfare Officer were created and arrangements were in hand for appointments to four of these posts at the end of the year. It is planned that the occupants, after initial periods of practical work training, will be seconded to take full-time courses in Social Work Training commencing in September 1964. It is hoped that the four remaining posts will be occupied in time to allow the officers concerned to commence Social Work Training Courses in 1965.

The four trainee Mental Welfare Officers whose appointments were mentioned in the last Report were all successful in obtaining a place on a recognised course in Social Work Training and commenced on the courses in September 1963.

Further discussions with representatives of the University of London took place during the year on the question of recruiting Trainee Psychiatric Social Workers with a view to proceeding to consider appointments during 1964.

Eight additional posts of Health Visitor were created, all of which were to come into effect in 1964. This increase in establishment is part of the phased programme to achieve an eventual ratio of one whole-time Health Visitor for every 4,000 of the population of the County, as envisaged in the County

Council's Proposals made under the National Health Service Act, 1946. The eight new posts ensured the maintenance of a minimum ratio of one whole-time officer to about 5,250 of the population in each of the Health Areas/County Districts with Delegated Powers.

In view of the continued absence of nationally negotiated conditions of service and salary scales for Group Advisers, approval was given to the appointment of 21 Group Advisers within the authorised establishments of Health Visitors on the salary scale for Health Visitors plus £30 per annum responsibility allowance.

Approval in principle was given to the creation of posts of Area Health Education Organiser, for not exceeding 50 per cent. whole-time in each case, as and when recommended by Health Area Sub-Committees and Delegatee Authorities.

Refresher Courses

The Senior Medical Officer for Child Health and one Assistant County Medical Officer attended a course on "The Mental Development and Diagnostic Testing of the Very Young" held at the Child Development Research Centre, London, and the Senior Medical Officer for Child Health also attended a Civil Defence Course for Medical Officers arranged by the Ministry of Health. A course in cerebral palsy, arranged by the Faculty of Medicine, University of Sheffield, was attended by one Assistant County Medical Officer and three Assistant County Medical Officers were sent to a course on "The Diagnosis and Treatment of the Deaf Child" at the Institute of Laryngology and Otology. Two Assistant County Medical Officers attended a course in audiometry at the Department of Audiology and Education of the Deaf, University of Manchester. Courses of instruction in "The Administration of Anaesthetics in Dentistry," held at the Eastman Dental Hospital, London, were attended by four Assistant County Medical Officers and six Assistant County Medical Officers were sent to courses on "The Educationally Sub-Normal Child" organised by The National Association for Mental Health. A refresher course arranged by The Society of Medical Officers of Health was attended by one Assistant County Medical Officer.

A post-graduate course arranged by The British Dental Association was attended by the Chief Dental Officer and one Area Dental Officer, and four Dental Officers and eight Dental Surgery Assistants went to a special one-day dental radiography course organised by Kodak Ltd. The Health Education Organiser and the Assistant Health Education Organiser attended a Study Day for Health Education Officers arranged by The Central Council for Health Education. One Speech Therapist attended a refresher course arranged by The College of Speech Therapists and ten Chiropodists were sent to a course held at the London Foot Hospital.

The Principal Health Visitor Tutor attended a Study Conference for Public Health Nurse Administrators and Tutors arranged by The Royal College of Nursing and two Non-Medical Supervisors of Midwives and Superintendents of Home Nursing were present at a Study Course for Nursing Administrators arranged by the Queen's Institute of District Nursing. A District Nurse Tutor (District Nurses Training Home) attended a course entitled "Rehabilitation Nursing, Posture and Lifting" organised by the Queen's Institute of District Nursing and a Study Course in "Family Psychiatry" organised by the East Anglian Regional Hospital Board was attended by two Superintendent Health Visitors. A Superintendent of a Nurses' Training Home and a Non-Medical Supervisor of Midwives and Superintendent of Home Nursing attended a refresher course for Supervisors of Midwives arranged by the Association of Supervisors of Midwives and two Superintendent Health Visitors were sent to an appropriate refresher course organised by the Health Visitors' Association.

One hundred and thirty-six Health Visitors, Midwives, Home Nurse Midwives and Home Nurses attended appropriate recognised post-certificate refresher courses arranged by The Health Visitors' Association, The Royal College of Midwives, The Royal College of Nursing and The Queen's Institute of District Nursing. Fifteen Health Visitors were sent to a course on "Hearing Testing Techniques" at the Institute of Laryngology and Otology and four Health Visitors attended a short course in audiology at the Department of Audiology and Education of the Deaf, Manchester University. Special one-week Study Courses entitled "Mental Health for Health Visitors" arranged by Severalls Hospital, Colchester, were attended by forty-eight Health Visitors. One Health Visitor attended a course on "Audio-Visual Aids" at the Overseas Visual Aids Centre, London. Ten Day Nursery Matrons and Deputy Matrons, three Nursery Wardens, ten Nursery Nurses and fourteen Nursery Assistants attended various courses organised by The Royal College of Nursing and the North-Western Polytechnic, London.

A course arranged by The Association of Public Health Lay Administrators was attended by three Senior Administrative Assistants and four Administrative Assistants attended a course on "Public Health Administration" arranged by The National and Local Government Officers' Association.

Medical Examination of Staff

The medical examination of persons selected for appointment, as well as of members of the staff of the County Council, again made heavy demands upon the time of the medical staff. The number of such examinations during 1963 totalled 6,360 (320 on behalf of other local authorities) compared with 5,838 the previous year and 5,148 in 1961.

Motor Transport for Staff

During the year under review the arrangements continued whereby certain members of the staff, mainly Health Visitors, Midwives and Home Nurses, whose

duties involve a considerable amount of travelling are provided with County cars or authorised to use their privately owned cars on County business. At the 31st December, 1963, 930 vehicles were in use as follows:—

County Cars .... (including four 5-cwt. vans, 1 10/12-cwt. van and 1 Utilibrake)	251
Private Cars, Scooters, Mopeds	679

In July 1963 it was decided on behalf of the County Council that, wherever practicable, officers whose duties justify the provision of motor transport should be encouraged to use privately owned cars as an alternative to being provided with County cars. During the year 40 members of the Health Department staff received loans under the Council's Assisted Car Purchase Scheme to purchase motor cars for use on County business, compared with 39 in 1962. Three officers purchased the County cars allocated to them and the County Council accepted the balance of five loans taken out by officers with other Local Authorities when the officers concerned were appointed to the staff of the Health Department.

Owing to the difficulties being experienced in providing domestic help service to isolated households in the more rural parts of the Administrative County because of the inadequacy or absence of public transport and the understandable reluctance of Domestic Helps to cycle long distances along country roads, especially in bad weather, the decision was taken to authorise a small number of Domestic Helps to use their privately owned cars on County business.

SITES AND BUILDINGS

Health Services Clinics

A new clinic was opened at Dovercourt and an extension was added to the existing clinic at Kenwood Gardens, Ilford. At the end of the year a new central clinic at Basildon (commenced in 1962) was nearing completion, work had commenced on the erection of new clinics at Wickford, Harold Wood, Chelmsford (Moulsham Lodge) and Colchester (Monkwick), the rebuilding of the Woodward Clinic, Barking, and an extension to the Marks Road Clinic, Romford.

Preparations were in hand for new clinics at Chelmsford (Springfield Park), Walthamstow (Hurst Road) and Colchester (High Street).

The Harlow Development Corporation, as agents of the Nuffield Provincial Hospitals Trust, put in hand the erection of a Group Practice and Clinic Centre at Great Parndon where accommodation will be leased by the County Council as is the case at the other group practice and clinic centres at Harlow.

Day Nurseries

New day nurseries were opened at Basildon and Leyton, preparations were in hand for a new nursery at Romford and terms were agreed for the leasing from the Barking Borough Council of a day nursery to be erected by that Authority.

Ambulance Stations

New Ambulance Stations were opened at Basildon, Harlow and Thurrock and a temporary station provided at Rochford, pending the construction of a permanent building. A start was made on the erection of new stations at Ongar and Wickford and on the provision of a temporary station at Thundersley.

Training Centres for the Mentally Subnormal

A new junior training centre was opened at Harlow and an extension added to the Thurrock Junior Training Centre. A start was made on the erection of adult training centres at Dagenham, Chelmsford and Leyton and a scheme was prepared for a new junior training centre at Clacton-on-Sea.

Hostels for the Mentally Subnormal

Hostels for mentally subnormal adults were opened at Romford (Westmarsh Lodge) and Colchester (Stanway) and a start was made on the erection of hostels at Stanway and Harold Hill, Romford, for persons recovering from mental illness.

Housing for Nursing Staff

A new house was erected at West Bergholt and a start was made on new houses at Rowhedge and Layer-de-la-Haye. Houses were purchased at Greenstead Green, Great Oakley, Thundersley, Rayleigh and Rainham.

DECENTRALISATION OF ADMINISTRATION

The number of Health Area Sub-Committees responsible for the day-to-day administration of certain health functions remained at 12 and the arrangements for decentralisation continued to operate smoothly. Conferences of Area Medical Officers were held on five occasions during the year when, amongst others, the following subjects were discussed: The Normal Development of Young Children (a talk given by Dr. Mary Sheridan), Detection of Diabetes, Methods of reviewing Chronic Sick Cases, Discharge of Patients from Hospital and arrangements for After-Care, Post-Certificate Training in Mental Health (the responsibility of the Health Visitor), Children at Risk (introduction of registers), Home Nursing Service (appointment of bathing attendants) and Local Authority Dental Services (administration of general anaesthetics).

LOCAL GOVERNMENT ACT, 1958 — DELEGATION OF HEALTH FUNCTIONS

The arrangements which have been in operation since 1st April, 1961, whereby health functions are delegated to the Colchester Borough Council and the Basildon Urban District Council under the Local Government Act 1958 continued throughout the year.

THE NATIONAL HEALTH SERVICE JOINT ADVISORY COMMITTEE

The National Health Service Joint Advisory Committee for Essex, representing the various branches of the National Health Service, met on four occasions during the year. Items of interest discussed included Toxaemia of Pregnancy (free Domestic Help), Maternity Medical Services (provision of General Practitioner Maternity Units) and the Essex Agricultural Show (Health Service publicity).

LABORATORY SERVICE

The five Public Health Laboratories used by Health Departments in Essex continued to give invaluable service by the bacteriological examination of milk, ice cream, water, cooked meats, cream cakes, shellfish, etc. Their services were also called upon to help in tracing the causes of food poisoning. The cleanliness of dairies and ice-cream plant and equipment can be assessed by the use of equipment available from these laboratories, and it can be seen therefore that they have an important role in the maintenance and improvement of food hygiene generally.

Chemical samples of water, sewage effluents, etc., are dealt with by the Counties Public Health Laboratories in London, the cost of such examinations and of any bacteriological examinations sent there being borne by the County Council.

Nature of Samples (1)	*Samples examined by*	
	Public Health Laboratories (2)	*Counties Public Health Laboratories* (3)
Milk	5,510 (4,774)	179 (174)
Ice cream (including lollies)	1,920 (1,571)	335 (364)
Other Foods	669 (1,059)	247 (286)
Water	1,401 (1,081)	476 (578)
Sewage Effluents	— (—)	93 (94)
Milk churns, bottles, cartons, etc.	826 (779)	— (1)

Note: Comparable figures for 1962 are shown in parenthesis.

MILK SUPPLY

The Department continued to play its part in maintaining a clean and wholesome milk supply. Samples of milk were taken throughout that part of the County area where the County Council are the Food and Drugs Authority. Raw milks are examined for cleanliness (the Methylene Blue Test) and also for the presence of tubercle bacilli and Brucella organisms.

133 samples were submitted for biological examination for tuberculosis and all were found to be negative.

300 samples were submitted for reports on the presence of Brucella organisms. 3 samples gave positive results. Where Brucella infection is detected, the Divisional Veterinary Officer of the Ministry of Agriculture, Fisheries and Food and also the Medical Officer of Health of the district concerned, are informed. The latter has powers under the Milk and Dairies (General) Regulations, 1959, to place restrictions on the sale of such milk for human consumption.

A pilot scheme to establish the presence of antibiotics in milk was started in November. Penicillin and other antibiotics may be present in milk for a short period after the animal has been treated with preparations of this nature. The sale of such milk is undesirable as it may have ill-effects on those people who are particularly sensitive to antibiotics. Out of 150 samples taken up to the end of the year, 9 showed traces of antibiotics.

The Milk Marketing Board were informed in each case.

The Milk (Special Designation) Regulations, 1960

The County Council issued 30 Licences to milk dealers during the year and 8 Licences were cancelled, so that the position at 31st December in respect of Licences was as follows:—

Type of Licence	*No. of Licences in Force*
Dealers (Pasteurised)	7
Dealers (Sterilised)	2
Dealers (Pre-packed milk)	611
	620

Eight dairies are licensed by the County Council to pasteurise or sterilise milk. One of the dairies is restricted to sterilising only, 4 have high temperature short time installations which operate on the continuous flow principle and 3 use the holder type of equipment for efficient pasteurisation.

Regular inspections are made to ensure compliance with the Regulations. The condition and working of the plant are investigated and samples of washed bottles, churn rinses and dairy water supplies are examined at frequent intervals.

457 milk samples were taken from the licensed pasteurising and sterilising plants by County Inspectors of the Health Department and all passed statutory tests.

Sampling of Milk

The following is a statistical summary of samples taken during the year by Officers of the Department.

	No. of samples	*Type*	*Appropriate Test*	*Passed*	*Failed*	*Void*
Sampling at processing plants	360	Pasteurised	Methylene blue	360	—	
	97	Sterilised	Phosphatase	360	—	
			Turbidity	97	—	
Sampling in course of distribution	145	T.T. Raw	Methylene blue	111	27	7
	2,307	Pasteurised (including T.T. Pasteurised)	Methylene blue	2,206	79	22
			Phosphatase	2,302	4	1
	126	Sterilised	Turbidity	126	—	

The table shows that, as expected, the highest percentage of failures occurs when dealers are handling untreated milk. The reasons for all unsatisfactory samples are fully investigated.

There was a big reduction in the number of unsatisfactory samples from vending machines, principally because the machines are re-stocked with fresh cartons more frequently. All such machines are refrigerated, inspected and sampled at short irregular intervals.

Milk-in-Schools Scheme

School milk samples are submitted to the prescribed tests for pasteurised milk, and results are given in the following summary.

No. of Pasteurised Samples taken	*Phosphatase Test*		*Methylene Blue Test*	
	Passed	*Failed*	*Passed*	*Failed*
589	589	—	577	12

An additional 131 samples were taken from school canteens, either of bottled milk or from churns. 11 of these samples failed the Methylene Blue Test.

A few complaints concerning either the keeping quality of the milk or alleged dirty bottles were investigated, but otherwise the scheme operated most efficiently throughout the year.

Ice-cream

The following table shows the number of samples collected by Local Authorities :—

Grade I	...	1,200	72·7%
Grade II	...	177	10·7%
Grade III	...	154	9·3%
Grade IV	...	121	7·3%
		1,652	

This number includes samples of both soft and hard ice cream taken from the various stages of production and distribution.

The percentage of Grade I and II samples shows a slight fall compared with 1962 results, but the results are still considered to be satisfactory.

Ice Cream Lollies

A total of 270 were sampled and 229 proved satisfactory upon Laboratory examination.

FOOD AND DRUGS ACT, 1955

The Chief Inspector of Weights and Measures has kindly provided the following report on the work undertaken by his Department during the year.

"The department's duty as the enforcement machinery of the County Council as food and drugs authority, is to take the steps necessary to see that all kinds of food sold within its area of responsibility contain no injurious ingredient, are of the nature, substance and quality demanded by the purchaser, and when described in advertisements or when displayed for sale, are truthfully described. Where standards have been prescribed, food of the kinds sold or offered for sale, must be of those standards. Where ingredients are required to be stated, the labelling requirements must be enforced. Where additives are prohibited or regulated, e.g. in the case of preservatives, steps must be taken to see that the statutory requirements are observed.

During the year, 945 samples of milk and 665 samples of a wide range of other foodstuffs and of drugs were procured under the Food and Drugs Act by the department's officers. The majority of the samples of milk were tested in the department's own laboratory for cream content and to detect the presence of any added water. Any sample so tested and found to be adulterated, was followed up with a formal sample submitted to the Public Analysts. Most other samples were sent to the Public Analysts for analysis and report, and in the selection of various foodstuffs for sampling, particular attention was given to those for which standards have been prescribed. Foods other than milk were sampled at both wholesale premises and retail shops, and, while the sampling programme was controlled from

the department's headquarters to secure a good coverage of the range of foodstuffs and drugs and to avoid unnecessary duplication of sampling, each District Inspector had an allocation of samples to be taken, to enable him to sample any article which in the course of his district work he considered should be examined.

Many of the samples of milk were taken at the large dairies, which are at once the collecting centres of milk from the farms and the centres of distribution of milk bottled for retail sale. Special attention was given to milk bottled for consumption at the schools. Milk collected from farms by milk tanker vehicles was sampled from the farm storage tanks immediately before collection.

Twelve samples of milk were found upon analysis to be unsatisfactory and each was the subject of appropriate action.

A farmer found to be selling milk which contained added water by amounts varying from 10 to 4 per cent. was prosecuted and fines and costs totalling £39 were imposed.

Twenty-six samples of foodstuffs other than milk gave rise to adverse reports and details of these are now given:

Milk Bottle with Foreign Body

A foreign body in a one-third pint milk bottle, containing dregs of milk, was found to consist of a horse chestnut, and the proprietors of the dairy concerned upon prosecution, were fined £5 and ordered to pay £2 16s. 0d. costs.

Bread

Three samples of bread were examined following complaints of the presence of foreign matter therein. In one sample, the foreign matter consisted of a blackish pellet-shaped mass of compressed mouldy flour, and in another, it consisted of a mass of discoloured dough, admixed with atmospheric sooty matter, including traces of iron rust and vegetable oil. In both these cases the attention of the baker was drawn to the matter.

In the third sample it consisted of a metallic disc, $\frac{1}{4}$in. in diameter, having a short appendage on one side. Further examination showed that the disc was made of aluminium and traces of aluminium were found in the stained portions of the bread cavity in which it was found. The baker who sold this loaf was prosecuted. The hearing of the case took place before the Maldon Justices who found the case proved and imposed a fine of £20 and ordered the defendant to pay five guineas cost.

Cheese

A sample of cheese was examined following a complaint that when used in the preparation of cheese sauce, rubber-like masses separated out on the bottom of the saucepan.

Examination showed that it was a full fat cheese of normal composition and the Analyst was unable to find any reason why it should be unsatisfactory for preparing cheese sauce.

Some of the rubbery masses from the unsatisfactory sauce were also submitted and these were found to consist essentially of masses of milk protein and curd.

The complainant was informed of the result of the analysis.

Cream Horn

A cream horn was submitted following a complaint that it contained a moth.

As received, the cream horn had been broken into two parts and in the bottom half, which was full of cream, the moth was found resting on the surface of the cream.

Examination of the cream horn, when the two halves were placed together, showed that the open end was not completely closed with jam and cream, as is usually the case with this confection, and it was therefore possible that the moth had gained access to the cream horn after it had been prepared in the bakery.

Hamburger

Although there is, at present, no statutory standard for the meat content of hamburgers, in the Public Analyst's opinion, the article should contain at least 75 per cent. meat.

A sample was found to contain only 66 per cent. of meat.

Ice Cream

The Food Standards (Ice Cream) Regulations, 1959, require that ice cream shall contain not less than 5 per cent. of fat and 7½ per cent. of milk solids other than milk fat.

One sample of ice cream was found to contain only 3.7 per cent. of fat and was therefore deficient in fat to the extent of 26 per cent. of the minimum quantity prescribed by the above Regulations.

The sample was satisfactory in respect of its content of milk solids other than milk fat.

The retailer of this ice cream was prosecuted, fined £5 and ordered to pay £3 15s. 6d. costs.

Luncheon Meat

Two small fragments of luncheon meat were submitted for examination by a purchaser who complained of the presence therein of foreign matter. The Public Analyst found this to consist of fragments of wood. Detailed investigations failed to reveal the source of these fragments.

Milk Chocolate

A sample of "Milk Chocolate," sold under a proprietary name, was found to have been prepared from fat other than fat derived from the cocoa bean or cocoa butter and, moreover, the milk constituent consisted essentially of skimmed milk.

In the opinion of the Analysts, Milk Chocolate should be prepared from full cream milk and the fat should consist of cocoa butter and milk fat and he accordingly reported that the sample was misdescribed as "Milk Chocolate."

The retailer was cautioned and requested to amend the description of the article.

Milk Chocolate Vermicelli

Two samples of Milk Chocolate Vermicelli were found to be unsatisfactory in that the milk constituent in each case consisted of skimmed milk powder, whereas

in the opinion of the Analysts an article described as "Milk Chocolate" should be prepared mainly from full cream milk powder.

The manufacturers' attention was drawn to the misdescription and they agreed to amend the labels used.

Milk Powder

A sample of Full Cream Milk Powder was submitted to analysis for examination following the finding of a low fat content in ice cream of which the milk powder was a constituent.

Examination showed that the powder contained only 19.1 per cent. of milk fat instead of the statutory quantity of 26 per cent.

The manufacturers of this powder were informed of the deficiency by way of caution.

Minced Meat

A sample of minced meat was taken for analysis following complaints that the consumption of minced meat from the same source had given rise to a sensation of heat and flushing, particularly of the face and neck.

This minced meat was found to contain:—

Nicotinic Acid	11 mg. per 100 g.
Ascorbic Acid	5 mg. per 100 g.

These results indicated that the meat had been treated with a proprietary preparation containing nicotinic and ascorbic acid for improving and maintaining the bright red colour of meat.

The use of these additives is now prohibited by the Meat (Treatment) Regulations 1964.

This matter had been raised by the Area Medical Officer to whom the results of analysis were duly reported.

Mustard and Cress

This article was described as being "so rich in protein and iron." It was found to consist essentially of a mixture of young seedlings of rape and cress containing approximately 5 per cent. of cress. The protein and iron contents were only 1.55 and 0.0008 per cent. respectively and, in the opinion of the analysts, these were insufficient to justify the claim.

As a result of representations made to the packers of this article, the wording of the label has been modified.

Orangeade

A bottle of orangeade was found to be tainted with a carbolic type of disinfectant. The contents had a distinct odour of carbolic acid and also an objectionable taste. Chemical analysis of the orangeade showed it contained 3 parts per million of phenols. This matter was passed on to the appropriate Public Health Officer.

Pork Luncheon Meat

This luncheon meat, which had been submitted by a purchaser, contained an irregular shaped fragment of glass weighing 0.1 gram. An investigation was made but, in the absence of conclusive evidence as to the origin of the glass fragment, no further action could be taken.

Salmon

This article consisted of pink, or chum, salmon (0. keta), and objection was taken to the label attached to the can. This carried the words "Red Prince Brand British Columbia Salmon" and this description appeared against a red background. In much smaller type were the words "Fancy Keta."

The Analyst expressed the view that the labelling of the article was unsatisfactory—the words "Fancy Keta" might easily be overlooked and the name "Red Prince," coupled with the red background, might well lead the purchaser to suppose that the can contained true red salmon. Upon representations being made to the retailers, they agreed to over-stamp all labels with the word "PINK."

Pork Sausages

One sample of pork sausages, examined during the year, was found to contain only 60 per cent. of meat and the butcher concerned was advised to raise the meat content to 65 per cent. in future.

Pork Sausage Meat

Pork Sausage Meat supplied under a County Council contract, was found to contain a slightly excessive amount of fat.

The contract required that the sausage meat should contain not less than 65 per cent. of meat and that not more than 33.1/3 per cent. of the meat should consist of fat.

The total meat content of this sausage meat was found to be satisfactory but the fat content amounted to 40 per cent. of the total meat, being in excess of the 33.1/3 specified in the contract.

The County Supplies Officer was informed of this unsatisfactory sample.

Granulated Sugar

Two samples of granulated sugar were found to contain more sulphated ash and more iron than is normally found in pure granulated sugar.

When these sugars were used to prepare strong sugar syrups, in both instances, the resulting syrups had slight brownish colours, due to the presence of iron.

The refiners were interviewed concerning these samples but were unable to account for the presence of the excess ash and iron.

Butter Drops and Dairy Butterscotch

In the opinion of the Analyst a confection, in which the word "butter" appears in the title, should contain a minimum of 4 per cent. of butter fat.

Two samples of confectionery failed to meet this minimum standard.

A sample of butter drops contained only 2.7 per cent. of butter fat and the sample of butterscotch only 3.4 per cent.

The manufacturers were cautioned in respect of these unsatisfactory samples.

Tapioca Pudding

Two samples of this commodity were examined and both were found to be prepared from sugar, maize starch, tapioca, salt, flavouring and colouring.

In each case it was found that the maize starch constituted more than half the total farinaceous constituent in the mixture and therefore the samples were misdescribed as "Tapioca Pudding."

This matter was brought to the notice of the manufacturers."

WATER SUPPLIES

As recorded at Langford Waterworks, the annual rainfall for the year was 22·21 inches which is approximately the average for the County. November was the wettest month and December the driest. There was very little rain in January and February, coincident with the coldest spell within living memory, when the sea was frozen off the coast, rivers became skating rinks and service supplies to thousands of households were cut off. The hot and dry summer, forecast to follow, failed to materialise.

Water will always be a subject of concern in Essex, with a large population continuing to expand and planned to grow further despite the limitations of water supplies.

Supplies are largely dependent on underground resources on which, apart from Statutory Water Undertakings, farming and industrial concerns are already making heavy demands. Water levels have fallen considerably during the last sixty years and thus it is felt that all applications made to the Minister for abstractions of underground water require careful consideration. During 1965 sixteen applications coming to the Council's notice were investigated, one being objected to by the County Council. It is the County Council's policy to object where there is any possibility of an abstraction even remotely affecting a source of public water supply. One Public Inquiry was held at which evidence was given on behalf of the Health Department.

Particulars of applications made and licences granted during the year in respect of the abstraction of underground water are given in the table on page 41.

In the north-east of the County, where the water resources are at a premium and further development is expected, the Tendring Hundred (New Sources) Order, 1963, promoted by the Tendring Hundred Waterworks Company, came into operation. It provides for the construction and maintenance of wells, bore

Date of Application	*Date of Licence*	*Galls. per Day*	*Place*	*Remarks*
—	February	60,000	Tolleshunt Major	Agricultural.
January	February	172,800	Ardleigh	Agricultural. Consent given to sinking of experimental boreholes.
February	August	700,000 (450,000 after 31.12.68)	Great Yeldham	Public supply for Halstead Rural District Council.
March	August	100,000	Little Yeldham.....	Agricultural.
March	—	98,000	Great Tey	Agricultural.
March	—	80,000	Frating	Quantity permitted from existing sources unobtainable. Additional bore to supplement supply, but no increase in permitted annual abstraction.
March	August	180,000	Tolleshunt D'Arcy	Agricultural.
—	May	144,000	Langham	Agricultural.
April	June	80,000	Elmstead	Agricultural.
May	—	160,000	Ugley	Agricultural.
May	—	850,000	Little Cornard	Public supply for Melford Rural District Council. In lieu of an existing licence for 280,000 g.p.d.
—	July	80,000	North Ockendon	Agricultural.
June	September	1,500,000 (750,000 after 31.12.64)	Dovercourt	Industrial.
July	—	192,000	Weeley Heath	Agricultural.
August	—	40,000	Wickham Bishops	Agricultural. Objection by County Council.
August	—	96,000	Ardleigh	Agricultural.
August	October	5,000	Burnham-on-Crouch	Poultry Farm and Domestic.
—	October	75,000	Thorrington	Agricultural.
August	October	8,000	East Mersea	Dairy and Domestic.
December	—	50,000	Thorpe-le-Soken	Agricultural.

holes and adits and pumping stations on the Suffolk side of the River Stour with a view to augmenting the Company's existing supply by about two million gallons a day.

In the west, consequent on the need to increase water supplies, the Lee Valley Water Company sank a new bore at the Company's Roydon pumping station. Iron removal plants were completed at both Roydon and Sawbridgeworth, a scheme was being prepared for a reinforced concrete water tower at Kelvedon Hatch and land was being purchased for the construction of a smaller tower at Toot Hill.

In the south, under the provisions of Act and Order, the construction of a reservoir at Romford with a capacity of 20 million gallons and a pipeline from Chingford was in progress and a contract for the construction of purification plant at Chigwell was let. When completed, the works will enable the South Essex Waterworks Company to obtain and treat raw water obtained from the Metropolitan Water Board. The last-mentioned Undertaking has agreed, in principle, to supply an amount of water increasing from an agreed 5 m.g.d. to an eventual 20 m.g.d. subject to the water being available. Two-fifths of this quantity, by agreement, will be passed to the Southend Waterworks Company.

In furtherance of the policy of regrouping Water Undertakings, agreement was reached between the Brightlingsea Urban District Council and the Tendring Hundred Waterworks Company to the making of a joint application to the Minister for an Order to enable the Council's Water Undertaking to be transferred to the Company.

Giving effect to an Order made earlier in the year, the Undertakings of the Saffron Walden Borough Council and the Saffron Walden and Dunmow Rural District Councils were taken over by the Lee Valley Water Company on the 1st October. On the other hand, a Bill failed which would have had the effect of amalgamating the South Essex Waterworks Company and the Southend Waterworks Company, together with the smaller Undertakings of the Chelmsford and Maldon Borough Councils, the Urban District of Burnham-on-Crouch and the Rural District Councils of Chelmsford and Maldon into one Company to be called the Essex Water Company.

The fundamental importance of water in Essex has led to the making of a number of surveys and reports from time to time, some by the Government and others on behalf of the County Council, culminating in the report on the Stour Hydrological Survey undertaken by the Surface Water Survey in 1961. With the growing problem of diverting water into Essex and critical years approaching it is reassuring that an examination of the water supply situation in South-East England is being made by the Ministry in parallel with a planning study of the problems associated with the growth of population in that area, a report on which is expected shortly.

Questions of water conservation and control are viewed from a national aspect in the Water Resources Act, 1963, passed on 31st July, 1963, but by the end of the year the "first appointed day" was still awaited. Under the Act a central authority (a Water Resources Board) and twenty-six River Authorities will be established. The duties of the Board will be to consider the action necessary for conserving, redistributing or otherwise augmenting water resources and to report to the Minister of Housing and Local Government. Extensive duties fall on the River Authorities including that of making a survey and report upon the present and future demands in their areas and making proposals to meet the situation. Among their powers is that of demanding information from anyone abstracting water or discharging effluent and of administering a system of licensing water abstraction and impounding. The Essex Rivers Authority will incorporate the area of the Essex River Board.

Water Consumption

Information received from the Statutory Water Undertakers in Essex (excluding the Metropolitan Water Board) shows that the daily consumption of water rose from 73,627,000 gallons in 1962 to 77,201,000 gallons in 1963, an increase of 3,574,000 gallons.

Rural Water Supplies and Sewerage

The policy of the County Council has always been to encourage Rural District Councils to lay water mains and to sewer their districts where possible, bearing in mind financial contributions towards approved schemes from the County Council and the Ministry of Housing and Local Government under the provisions of the Rural Water Supplies and Sewerage Acts 1944/61. In this connection, the actual grant paid by the County Council to Rural District Councils for the financial year 1962/63 was £76,083, and the estimated grant for 1963/64 is £85,250.

The annual inspections of sewage disposal works to which the County Council contribute towards the cost, in eight Rural Districts, were carried out during 1963 and it was found that in each instance the maintenance was satisfactory.

During the year the following schemes were submitted for grant purposes and for the County Council's observations prior to the District Council's application to the Ministry of Housing and Local Government:—

Sewerage & Sewage Disposal

		£
Chelmsford R.	Sewer, Lodge Road, Writtle	7,580
Rochford R.	Relief Sewer, Rochford	20,457
Dunmow R.	Broxted S. & S.D. (revised scheme)	56,000
Lexden & Winstree R.	Eight Ash Green—ext. to Seven Star Green	498
Saffron Walden R.	Great Chesterford S. & S.D. (revised)	89,000
Brightlingsea U.	Sewerage and sewage disposal	181,000

		£
Rochford R.	Relief Sewer, Hockley	10/11,000
Maldon R.	Althorne, Mayland and Maylandsea S. & S.D.	329,500
Braintree R.	Panfield and Rayne S. & S.D. — Scheme "A"	92,200
	Scheme "B"	92,080
Lexden & Winstree R.	Ext. to Aldham Church Area Scheme to serve Gallows Green Area, Aldham	2,400
Frinton & Walton U.....	Kirby-le-Soken S. & S.D.	37,500
Chelmsford R.	Woodham Ferrers Sewerage	48,300
Braintree R.	Bradwell and Stisted S. & S.D.	67,000
Maldon R.	Steeple S. & S.D.	37,400
Maldon R.	Great Braxted S. & S.D.	13,500
Maldon R.	Latchingdon & Mundon, Cold Norton and Stow Maries S. & S.D.	187,607
Maldon R.	Tolleshunt D'Arcy S. & S.D.	96,000
Tendring R.	Western Area Sewerage Scheme—inclusion of Oatlands and Wheatlands	3,824
Lexden & Winstree R.	Birch and Layer Breton S. & S.D.	88,880
Chelmsford R.	Good Easter Sewerage	15,500
Saffron Walden R.	Debden S. & S.D.	41,500
Saffron Walden R.	Newport S. & S.D.	66,500

Water Supply

Waltham Holy Cross U.	Wakes Arms district	9,300
Chelmsford R.	Ext. to two cottages, Highwood	815
Epping & Ongar R.	,, ,, Colliers Hatch, Stapleford Tawney	2,765
Tendring R.	,, ,, Straight Road, Bradfield	1,275
Chelmsford R.	,, ,, Cloville Hall, West Hanningfield	548
Colchester & District Water Board.....	,, ,, School Road, Gt. Horkesley	1,610
Brentwood U.	,, ,, Billericay Road	3,800
Tendring R.	,, ,, Lee Wick Lane, St. Osyth	1,120
Braintree R.	,, from Ulting to Wickham Bishops Road, Hatfield Peverel	8,958
Lexden & Winstree R.	,, to Purney Heath, Dedham	2,300
Epping & Ongar R.	,, ,, Kiln Road, North Weald (revised)	1,310
Braintree & Bocking U.	,, ,, Fennes Road, Bocking	3,400
Halstead R.	Exts. to Dist. Water Scheme, Stage III (2nd Instalment)	4,200
Colchester & District Water Board	Ext. to Golden Square, Mount Bures	2,410

Engineering investigations were held by Inspectors of the Ministry of Housing & Local Government concerning the following sewerage schemes and the County Council were represented by the County Health Inspector or an Assistant County Health Inspector :—

Rochford R.	Church End, Foulness
Lexden and Winstree R.	Messing and Tiptree
Halstead R.	Ridgewell
Lexden and Winstree R.	Fingringhoe, Abberton, Langenhoe and Peldon
Epping & Ongar R. ...	Nazeing
Tendring R.	Great Oakley
Chelmsford R.	Good Easter and Pleshey
Halstead U.	Halstead Sewage Disposal Works extensions
Chelmsford R.	Woodham Ferrers
Braintree R.	Terling and Hatfield Peverel

Lack of uniformity in progress made by Rural District Councils since the Rural Water Supplies and Sewerage Act came into operation in 1944 has been apparent for a long time and, whilst the provision of principal water mains throughout the rural districts is satisfactory, there is a considerable disparity between the sewerage schemes provided in the areas of some rural districts.

It is the duty of every county district council to provide, where economically possible, such public sewers as may be necessary for effectually draining their district and to construct sewage disposal works capable of consistently producing satisfactory effluents. There are many good sewerage schemes, but the County Planning Committee have found it necessary to impose Standstill Directions on development in some rural areas. These should have the effect of holding up development for very limited periods only whilst deficiencies in sewerage and sewage disposal are made good, and they do not diminish the general duty of a local authority to provide proper services for existing and new development.

Table X on page 125 shows schemes completed in 1963, work under construction, and schemes it is anticipated will be prepared in the future.

County Council Sewage Disposal Works

Seventy-nine visits were made to 26 disposal works owned by the County Council. These serve schools, residential establishments, etc.

Fifty-seven samples of the treated effluents were obtained and of these 35 complied with the standard suggested by the Royal Commission on Sewage Disposal. All results are notified to the County Architect together with any necessary observations regarding the works. Servicing is now carried out by a mobile team controlled by the County Architect and this arrangement has resulted in greatly improved maintenance.

Refuse Disposal

The deposition of refuse received from outside or conveyed from one district to another within the administrative County, is regulated under the Essex County Council Act, 1933. There are 47 tips receiving domestic and/or trade refuse subject to such control, of which 6 were established during the year. No tips were closed or completed.

A total of 409 inspections were made during the year. With few exceptions, operators co-operated in complying with the stipulated conditions and no legal proceedings were necessary.

To ensure that there are no health hazards and to check compliance with planning conditions 64 visits were made to 55 tips which are outside the scope of the Essex County Council Act, 1933, but which are subject to control under the Town and Country Planning Acts.

There are at present two tips in the County used exclusively for the reception of chemical and industrial wastes. Owing to industrial expansion, legislation controlling effluent standards and restrictions on the discharge of certain chemicals and industrial wastes into sewers, there is an increasing quantity of trade wastes, both solid and liquid, to be disposed of by tipping on to land. Such materials can be excluded from tips which are subject to Planning Conditions, but there is no such control over the materials deposited in tips under the Essex County Council Act, 1933, which were in operation before the implementation of the Town and Country Planning Act, 1947.

Disposal of these wastes should be controlled so that there is no danger of pollution to the underground water supplies and adjacent land or water courses. Control can be either by chemical treatment so as to neutralise and render wastes inoffensive, or by the designation on a national basis, of certain areas where the disposal of trade wastes can be undertaken with reasonable safety and without causing any nuisance.

With a view to a national policy on this growing problem, preliminary discussions have taken place with officials of the Ministry of Housing and Local Government.

RURAL HOUSING

During the year building continued apace in office, industrial and housing fields with ever-growing demands for building materials.

Housing figures supplied by the ten Rural District Councils indicate in general a slight slackening in urgent housing needs and a considerable reduction in local authority building, but little change in the private enterprise boom in their areas. Continued pressure from development is reflected in Rural Districts in the vicinity of the larger towns, e.g., Chelmsford, Colchester and Southend-on-Sea.

Fewer unfit houses were demolished, the largest individual total—as in the last two previous years—being to the credit of the Tendring Rural District Council, and there was a decrease in the numbers of houses closed or rendered fit.

The Rochford Rural District Council, having in 1962 apparently completed their programme, now state that the number of houses unfit for human habitation cannot be estimated. On the other hand, the Braintree Rural District Council, having revised their housing survey, are able to give an estimated total of 375 houses remaining in that category, a drop of 50 from that authority's total for 1962.

If figures are to be relied on, undoubtedly there appears to be variation of progress as between one authority and another. The Braintree Rural District Council, having apparently succeeded in reducing their 1955 estimate by approximately 50 per cent. are still left with the highest total of unfit houses to be dealt with. In 1955 it was the Dunmow Rural District Council that topped this section of the table, but that authority now claim only 51 unfit houses remaining to be dealt with. The Epping and Ongar Rural District Council, admittedly with the advantage of the lowest estimated total (146) at the outset, moving at a slower rate, still have the lowest total, 30, and require two more years to complete their programme. The Maldon Rural District Council, after eight years, still claim that they require five years to complete their programme and the Chelmsford and Saffron Walden Rural District Councils, as in 1962, still consider three years necessary. No unfit houses were retained for temporary accommodation.

Informal action still plays a large part in the repair and rendering fit of houses, and in this respect the Lexden and Winstree Rural District Council appear to have made a special effort during 1963.

Numbers of applicants in urgent need of re-housing on the Councils' waiting-lists increased in the Halstead Rural District, with a comparatively low rate of development, and also in the Lexden and Winstree Rural District, with a high rate of development. In other cases they either remained more or less static, or, except in two cases, were only slightly reduced. With the aim of achieving some measure of uniformity in this section of the returns, the term "urgent need" was defined as intended to refer to families living in low standard dwellings, overcrowded and/or sharing accommodation in discomfort, age and illness also being factors to be taken into account.

The extent of house improvements effected during the year through the Housing (Financial Provisions) Act, 1958, and the House Purchase and Housing Act, 1957, is shown in Table VIII on page 122. A slight fall in payments developed during 1963, although there were increased totals in the case of four Authorities, particularly that of the Lexden and Winstree Rural District Council. Whilst much has been effected through these means, which are voluntary on the

part of house owners, despite a building industry pre-occupied with building projects and an unknown number of houses which have been improved by owner occupiers without recourse to grant, a large number of tenanted houses worthy of improvements remain, to the concern of the more progressive Authorities.

ATMOSPHERIC POLLUTION

In co-operation with the Department of Scientific and Industrial Research, and following a meeting held in 1961 with representatives of district councils to discuss and implement air pollution measurement in Essex as part of the national survey, suitable sites were selected in various parts of the County where instruments can be sited to measure smoke and sulphur dioxide. The instruments are purchased by the local authority, but the County Council have agreed to give an 80 per cent. grant towards their cost. The County Council have also purchased an instrument for measuring smoke stains, and staff of the department will use this machine on behalf of the various participating authorities.

The scheme was in operation in some districts by the end of the year. The information obtained is forwarded to the Department of Scientific and Industrial Research.

ESTABLISHMENTS FOR MASSAGE OR SPECIAL TREATMENT

Part IV of the Essex County Council Act, 1933 was in force in only 27 of the County Districts at the beginning of the year, but it was extended to include the remaining 16 districts.

All licensed establishments have now satisfactory washing facilities installed in the treatment rooms.

22 new licences were granted;

86 licences were renewed;

8 licences for transfer of premises were issued;

349 inspections were carried out.

SECTION III—THE CARE OF MOTHERS AND YOUNG CHILDREN

Child Welfare Centres

At the end of 1963 the County Council were providing a total of 280 Child Welfare Centres at which a total of 476,788 attendances were made throughout the year. During the year two new Centres were opened and two discontinued, as follows:—

New Centres Opened:

Health Services Clinic, 409 Main Road, Dovercourt

The Village Hall, Purleigh

Centres Discontinued:

All Saints' Church Hall, Dovercourt

The Village Hall, Althorne

Distribution of Welfare Foods

During 1963 Welfare Foods were being distributed from 416 Centres in the Administrative County, this being 33 less than in the previous year. 176 of these distribution centres were in Health Services Clinics and 240 in other premises. Welfare Foods, including National Dried Milk, were distributed to beneficiaries during 1963 in the under-mentioned quantities. Comparative figures are given for 1962:—

	1962	1963
Orange juice and Vitamin C (bottles) ...	476,909	543,606
Vitamin A and D tablets (packets)	51,878	51,537
Cod Liver Oil (Vitamin A & D) (bottles) ...	42,403	42,723
National Dried Milk (tins)	388,880	368,777

Medicaments and Nutriments

The arrangements whereby approved medicaments are issued free of charge and nutrients sold at reduced prices, on medical recommendation, to mothers and young children attending Child Welfare Centres, continued during 1963. As in previous years, items were added to the list of nutrients issued from Clinics when there was a justifiable demand.

Dental Inspection and Treatment

The report of the Chief Dental Officer on the work of the County Dental Service appears on page 91. The following table gives details of dental treatment provided for expectant and nursing mothers and young children during 1963 as compared with 1962:—

	Expectant and Nursing Mothers		*Children under five years of age*	
	1962	1963	1962	1963
Number examined	832	1,029	2,831	4,004
Number who commenced treatment	699	848	1,750	2,418
Courses of treatment completed*	576	652	1,657	1,952
Dental Treatment provided:				
Scalings and gum treatment	399	709	41	88
Fillings	1,343	1,955	2,716	4,215
Silver Nitrate treatment	30	42	972	1,305
Crowns and Inlays	10	24	—	—
Extractions	951	981	1,200	1,500
General Anaesthetics	104	136	579	674
Dentures provided:—				
Full upper and lower	85	58	—	—
Partial upper and lower	67	90	—	—
Radiographs	80	164	31	46

* Figures for 1962 relate to those "made dentally fit."

Detection and Treatment of Phenylpyruvic Oligophrenia

During 1963 arrangements for the detection and treatment of phenylpyruvic oligophrenia continued throughout the Administrative County and appropriate tests were made on the urine of 30,222 children (5,821 more than in 1962). No case was found to have a positive reaction.

Day Nurseries

During 1963 the County Council provided 20 day nurseries with accommodation for 958 children in all. Of these day nurseries 13 were approved for the training of nursery nurses.

Daily Guardians Scheme

At the end of 1963 the numbers of registered daily minders and of children being cared for were as follows:—

Health Area	*Daily Guardians*	*Children being cared for*
Forest	1 (2)	1 (1)
Dagenham	42 (86)	24 (42)
Walthamstow	7 (6)	3 (2)
South-East Essex	4 (1)	2 (—)
	54 (95)	30 (45)

Note: The figures in parenthesis relate to 1962.

Nurseries and Child Minders Regulation Act, 1948

The following table shows the number of premises and child minders registered by the County Council in accordance with the requirements of the Nurseries and Child Minders Regulation Act, 1948, and the number for whom provision was being made at the end of 1963, together with comparable figures for 1962 :—

Health Area/ Delegatee Authority	Nurseries				Child Minders			
	Number Registered		*Number of Children Provided for*		*Number Registered*		*Number of Children Provided for*	
	1962	1963	1962	1963	1962	1963	1962	1963
North-East Essex	2	3	31	41	6	11	53	96
Mid-Essex	4	12	68	221	19	24	187	216
South-East Essex	5	8	87	96	15	15	103	94
South Essex	20	22	618	666	14	15	112	150
Forest	13	18	332	436	8	9	36	43
Romford	1	4	12	142	4	4	25	12
Barking	—	—	—	—	—	—	—	—
Dagenham	—	—	—	—	3	3	22	20
Ilford	11	18	461	844	9	13	52	74
Leyton	—	—	—	—	3	3	9	12
Walthamstow	2	2	56	56	—	2	—	27
Harlow	5	7	138	181	10	11	55	56
Basildon U.D.C.	4	4	73	75	11	11	85	75
Colchester M.B.C.....	3	3	92	105	—	2	—	10
Total	70	101	1,968	2,863	102	123	739	885

Child Guidance

Reference has been made in previous reports to arrangements suggested in Ministry of Health Circular 3/59 dated 10th March, 1959, for Child Guidance teams to advise staff of Child Welfare Centres on problems of emotional development and behaviour difficulties as may be encountered in mothers and young children attending the Clinics. Although co-operation between the Child Guidance Service and the staff of the County Health Services Clinics was maintained throughout the year, it was not possible, owing to the continued shortage of child psychiatrists, to arrange psychiatric sessions for this purpose.

Convalescent Facilities

During 1963, 18 mothers and 31 young children were sent for recuperative holidays in accordance with arrangements made under Section 22 of the National Health Service Act, 1946.

Kingsley Hall Day Centre for Handicapped Children, Dagenham

Dr. J. A. Gillet has prepared the following report in respect of this Centre:

"This Centre for handicapped children was opened in May 1960 as the result of a survey carried out in 1957 in Dagenham on a number of handicapped children under the age of five. This report showed a need for a day centre for the handicapped under-fives. The purpose of the Centre was to assess the young, severely handicapped from the medical, sociological and educational points of view as well as to assist in their development. To this end all the specialist hospital facilities of the National Health Service are made use of as well as those facilities provided by the Health and Education Authorities. The Centre caters for twenty children, some with dual mental and physical defects. They receive training within the limits of their capacity together with special training to overcome their defects, using speech therapy and physiotherapy as well as the services of the Child Guidance personnel and a teacher of the deaf. The dietary requirements of the children are studied with great care and great importance is attached to them. Careful assessment and adjustment of diet sometimes produces the most remarkable improvement.

The Centre is staffed by a Sister-in-Charge, a Warden and a team of Nursery Nurses. Dr. Hodgson, maternity and child welfare medical officer, visits weekly and at other times as necessary. The staff are available to discuss the parents' difficulties with them and to advise on the handling of particular children.

Attendance at the Centre is free, and it operates from 9.30 a.m. to 3.30 p.m. on five days a week. The children are conveyed to and from the Centre in a specially adapted minibus.

Early assessment of the child's potentialities is a great advantage as it means that future care and training can be planned in some detail, and by the time the child reaches the age of five the doctor is in a position to recommend the right placing for each child.

During 1963 a new experiment was carried out when a portable swimming pool was offered as a gift to the nursery. It is only possible to use this during the warmer weather because it can only be used out of doors, but it was found possible to use warm water, and the effects on the children, particularly the cerebral palsied and hemiplegic children, is quite remarkable.

Increasing use is made of the facilities available for medical diagnosis and dental treatment available in the hospitals, and the child attending is accompanied by a member of the staff or a parent. This helps both the hospital and the nursery since an exchange of views on the child can be extremely valuable. It also ensures that appointments are kept for necessary dental treatment.

The figures given for the year are as follows:—

London Hospital Dental School	18
Oldchurch Hospital: Ophthalmic	5
Orthopaedic	2
Grays Inn Road: Audiology	1
Interviews for Special Schools	3

As more experience is gained, attempts are made to assess the potentialities of the children with more precision, and Dr. Hodgson uses the Ruth Griffiths Mental Scales and the physical assessment methods used by the Sheffield Cerebral Palsy Unit, and also the Mary Sheridan Hearing and Vision Tests. These are rather time-consuming, but it is possible to give a more accurate estimate of the child's progress by the use of these tests than by merely recording an impression of the child. This may give a guide to the child's future potentialities.

The attendance at the Centre during 1963 was excellent despite the very severe winter and poor summer. The average was 16 per day. The number of children admitted was 15, and discharged 13. One child died in Oldchurch Hospital in December.

During the year the equipment at the nursery was added to as the need arose; for example, several therapeutic toys which include a microphone and telephone for speech therapy, a scooter and a punch-ball, were purchased."

Child Development Sessions

The proposal to extend Child Development sessions throughout the Administrative County as referred to in last year's Report was agreed in March 1963 and at the end of the year sessions were being held at:—

	Sessions per week
Granleigh Road, Leyton	3
Leyton Green, Leyton	1
Dawlish Road, Leyton	1
Northbury Infants' School, Barking	2

Further extension of these facilities is planned.

Boarded-out Children

Of the 1,064 children examined under the arrangements made for the examination of boarded-out children, 326 were found to require treatment or observation because of various defects and in each case the Area Medical Officer concerned was informed of the findings in order that the appropriate action could be taken. The majority of these examinations were undertaken by general medical practitioners, the remainder being undertaken by the County Council's medical staff.

Leukaemia Survey

The First Report on the nation-wide Leukaemia Survey referred to in the Annual Report for 1962, was published in August 1963 and, though this report gave evidence that satisfactory progress was being made, it indicated the desirability of extending the survey for a further period. Subsequently, an inquiry was received from Dr. Alice Stewart of the Department of Social Medicine, Oxford University, who is responsible for the survey, as to whether the County Council would be prepared to continue their co-operation until the equivalent of a 10-year follow-up of 1953-57 births has been achieved (i.e., until all deaths before 1968 are known) and it was agreed that Essex would continue to help in this very useful and worthwhile investigation. The cases concerned are now being investigated and a further report will be submitted in due course.

SECTION IV—THE MIDWIFERY, HOME NURSING AND HEALTH VISITING SERVICES

Midwifery Service

The numbers of midwives who notified their intention to practise in accordance with the provisions of the Midwives Act, 1951 are given below:—

Form of practice	*Domiciliary Midwives*	*Midwives in Institutions*	*Total*
a) Domiciliary Midwives employed by the ..... Authority	297	—	297
Domiciliary Midwives employed by Hospital Management Committees	2	—	2
b) Midwives in private practice (including those employed in nursing homes)	—	26	26
TOTAL	299	26	325

Domiciliary midwives employed by the County Council attended 11,989 confinements; a doctor was booked for all except 296 of these cases.

The total number of births notified during the year under Section 203 of the Public Health Act, 1936, was 33,999 (526 more than in 1962) and of these 5,877 were attended by County Council midwives after delivery in hospital and discharge before the tenth day. The percentages of hospital confinements were as follows:—

	1963 %	1962 %
Colchester M.B.	74·3	73·0
North-East Essex	78·9	77·4
Mid-Essex	66·7	65·2
Basildon U.D.	48·8	49·5
South-East Essex	46·5	41·9
South Essex	56·3	55·6
Harlow	49·1	(not available)
Forest	66·4	60·3
Romford	59·7	56·5
Barking	72·0	70·1
Dagenham	63·9	57·4
Ilford	73·6	71·4
Leyton	76·4	75·9
Walthamstow	69·8	68·7

The average increase is 0·5 per cent. for the whole of the Administrative County.

Midwifery Service—Discharges from Hospital

There was an increasing trend during the year for maternity patients confined in hospital to be discharged before the 10th day. This threw a heavier load on the domiciliary midwives but it is gratifying to record that all demands on the service were met. As the ordinary maternity packs are not available for these patients, special maternity packs containing items for post-natal care only are being provided.

Disposable Equipment

During the year approval was given to the use of disposable syringes and needles in those areas where advantage could not be taken of the Central Syringe Sterilising Unit at Leyton. These products have been found to be most satisfactory in use and constitute a saving in both time and labour.

Maternity Medical Services

Consequent to the County Council giving approval to the use, where practicable, for ante-natal clinic purposes, of County Health Services premises and facilities by general practitioner obstetricians free of charge, these facilities are being provided in three Health Services Clinics. The arrangements are working very satisfactorily and have led to improved co-operation and co-ordination between the general practitioner obstetricians and the local authority staff.

Standard Co-operation Record Cards for Maternity Patients

Subsequent to the recommendation by the Maternity Services (Cranbrook) Committee concerning the introduction of a standard record card for use by maternity patients, Ministry of Health Circular 2/63 dated 1st February, 1963, enclosed a specimen of the proposed card which had been prepared in consultation with the professions concerned and endorsed by the Standing Maternity and Midwifery Advisory Committee.

The main purpose of the card is to ensure that each member of the obstetric team is aware of the attention given by the other members, but it is not intended to be a complete record of the expectant mother's clinical history or a substitute for the doctor's, midwife's or hospital's own records.

While adoption of the card is a matter for local decision, the Minister expressed the hope that, in due course, it would be used universally and in consequence, following consultation with Area Medical Officers, the Executive Council for Essex and the Regional Hospital Boards, agreement was reached on the introduction of a standard card throughout the Administrative County and all Hospital Management Committees (with the exception of the Southend-on-Sea Management Committee who prefer their own more comprehensive card, and the Chelmsford Management Committee, who wish to use their own card for another year) agreed to introduce the card suggested by the Ministry.

The use of the standard co-operation record card by domiciliary midwives employed by the County Council was brought into operation on 2nd September, 1963.

Analgesia

All the 297 domiciliary midwives employed by the County Council during the year were qualified to administer inhalational analgesia in accordance with the requirements of the Central Midwives Board. Inhalational analgesia was administered to 82·4% of women confined at home (1·5% less than the figure for the previous year). Details are as follows:—

Cases attended by County Council Midwives	1963	1962
Gas and Air	7,367	8,209
Trilene	2,513	1,819
Pethidine	6,988	6,749

Ante-natal and post-natal clinics

Attendances at ante-natal clinics and post-natal clinics during 1963 compared with corresponding figures for the three previous years were as shown in the following table:—

	Number of women in attendance during the year	*Total number of attendances during the year*	
		Medical Officers sessions	*Midwives sessions*
For ante-natal examination—			
1963	15,890	44,380	43,512
1962	12,487	36,656	40,637
1961	14,605	39,891	37,050
1960	13,984	42,131	33,486
For post-natal examination—			
1963	3,550	3,942	—
1962	3,325	3,717	—
1961	3,452	4,052	—
1960	3,239	3,780	—

Puerperal Pyrexia

During the year there was a considerable decrease in the number of cases of puerperal pyrexia notified; the total being 199 as compared with 328 in 1962. Of this total, only 28 cases occurred amongst domiciliary confinements, this being 6 less than during the previous year.

Ophthalmia Neonatorum

During 1963, 15 cases of ophthalmia neonatorum were notified (three more cases than last year). No impairment of vision resulted in any of these cases.

Maternal Deaths

Twelve deaths attributed to pregnancy, childbirth or abortion occurred in 1963. The maternal death rate per thousand live births was 0·35 as compared with the national rate of 0.28.

In accordance with accepted procedures, detailed reports of each of these deaths were sent to the Regional Assessor.

Care of Unmarried Mothers and their Babies

The Chelmsford Diocesan Moral Welfare Association continued to undertake the care of unmarried mothers and their children on an agency basis for the County Council.

Under these arrangements 305 unmarried mothers were admitted to hostels in 1963, a decrease of 3 compared with 1962. 37 of these mothers went to hostels outside the Administrative County.

Training of Pupil Midwives

The County Council's Training Homes continued to undertake the training of pupil midwives for the Part II Certificate of the Central Midwives Board and during the year 90 pupils were trained under these arrangements.

Besides those trained at the County Council Training Homes, pupil midwives from various hospitals are boarded-out with midwives in the Health Areas for three months of their Part II training and under this arrangement 103 pupils were accommodated during 1963.

HOME NURSING SERVICE

Of the 50 student district nurses trained at the County Council's Training Homes in 1963, 47 were successful in passing the examination of the Queen's Institute of District Nursing.

The final transfer of the Home Nursing Services from The Lady Rayleigh Training Home to the County Borough of West Ham in respect of that part of West Ham formerly covered was completed on 31st January, 1963.

Statistics

The total number of patients visited by home nurses during 1963 was 26,299, a decrease of 1,419 as compared with 1962. The total number of visits paid to these patients was approximately 659,080 and the following table gives details of such visits over the last three years :—

Age group	*Number of cases attended by Home Nurses during*			*Number of visits paid by Home Nurses during*		
	1961	1962	1963	1961	1962	1963
nder 5 years of age	677	859	886	4,697	4,433	4,795
ver 5 and under 65 years	9,260	11,805	8,884	209,345	229,077	186,372
ver 65 years of age	14,850	15,054	16,529	418,490	441,795	467,913
All ages	24,787	27,718	26,299	632,532	675,305	659,080

HEALTH VISITING

At the end of 1963, 240 full-time and 29 part-time health visitors and 20 full-time and 4 part-time tuberculosis visitors were employed as compared with 196 full-time and 24 part-time health visitors and 21 full-time and 2 part-time tuberculosis visitors at the end of 1962.

The 12 Essex sponsored student health visitors were all successful in passing the final examination following completion of their training during the year at the Health Visitors' Training Centre, South-East Essex Technical College, Dagenham. At the end of the year 15 Essex Students were undergoing their training there.

Provision was made in the County Council's Ten Year Development Plan for the allocation of health visitors to work with general medical practitioners or groups of practitioners as the staffing position permits and in this connection the County Health Committee have agreed upon four pilot schemes with the Essex Local Medical Committee for the allocation of Health Visitors to work with general medical practitioners in the Administrative County. These are as follows :

1. A health visitor attached to one urban practice;
2. A health visitor shared between two urban practices;
3. A health visitor fully utilised in a rural practice; and
4. A health visitor shared between two rural practices.

The first scheme, which has been operative in Romford for some time, is working satisfactorily and is being extended for a further period in order that a more comprehensive evaluation of the scheme may be made.

Efforts were also continued during the year to implement the remaining three schemes but difficulties have arisen, mainly through shortage of staff and the selection of suitable practices but it is hoped that these particular problems will eventually be resolved.

Mothercraft and Relaxation Courses

During 1963, 4,562 classes were held with a total number of attendances of 31,665. There were 6,397 expectant mothers who took advantage of these classes, 4,181 of whom were booked for confinement in hospital and 2,216 for confinement at home.

Statistics

Health visitors made a total of 378,435 visits in 1963 as compared with 363,555 during 1962. The following tables show the number of visits and cases in age groups over the past three years :—

Visits	1961	1962	1963
To children under 5 years of age	261,345	259,044	267,827
To persons aged 65 or over	19,755	20,679	26,120
To others (excluding School Nursing cases)	37,286	38,547	27,489
Ineffective visits	42,981	45,285	56,999
	361,367	363,555	378,435

Cases Visited

Children born in 1962 or 1963	64,522	
Children born in 1958-1961	68,133	
Persons aged 65 or over	12,362	
Others (excluding School Nursing cases) ...	13,366	
	158,383	
The following categories of patients are included in the table above :—		
Mentally disordered persons	1,105	(372)*
Persons discharged from hospital (other than mental and maternity hospitals)	1,389	(709)*
Tuberculosis households	2,810	
Households visited on account of other infectious diseases	1,349	

* Figures in brackets are the number visited at the special request of a general practitioner or hospital.

SECTION V—PREVENTIVE MEDICINE

CARE AND AFTER-CARE—TUBERCULOSIS

For the ninth successive year, there was a decrease in the number of primary notifications of tuberculosis. The total figure amounted to 609, 57 fewer than in 1962.

Detailed information about the notifications of respiratory and non-respiratory cases which were received in 1963 is shown in the following table:—

	Formal Notifications													
	Primary Notification of New Cases of Tuberculosis													
	Sex	0-	1-	2-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-	*Total (all ages)*
spira-	M	—	4	7	11	5	17	23	57	45	49	70	40	13	341
ory	F	1	3	7	13	4	20	24	43	39	23	14	6	2	199
n-															
spira-	M	—	—	1	2	3	3	3	6	5	1	4	2	—	30
ory	F	—	—	2	3	—	—	9	5	4	6	4	2	4	39

44 new cases were discovered other than by formal notification details of which are given below:—

	Number of cases which came to light other than by formal notification									
Sex	0-	15-	20-	25-	35-	45-	55-	65-	75-	*Total (all ages)*
piratory M	—	—	—	1	1	6	8	9	6	31
F	—	1	—	—	—	1	—	1	6	9
- M	—	—	—	—	—	1	—	—	—	1
espira-										
ry F	—	—	—	—	—	3	—	—	—	3

The number of primary notifications of tuberculosis, the number of deaths attributed to the disease and the annual notification and death rates in each quinquennium since 1925 and for individual years since 1959 are shown in the following table:—

	Respiratory Tuberculosis				Non-Respiratory Tuberculosis				Tuberculosis (all forms)			
	Notifications		Deaths		Notifications		Deaths		Notifications		Deaths	
	No.	Rate*	No.	Rate*	No.	Rate*	No.	Rate*	No.	Rate*	No.	Rate*
1925-29	5,626	1.09	3,376	0.65	1,853	0.36	704	0.14	7,479	1.45	4,080	0.79
1930-34	6,005	0.97	3,498	0.57	2,122	0.34	705	0.11	8,127	1.32	4,203	0.68
1935-39	5,521	0.81	3,015	0.44	1,783	0.26	577	0.08	7,304	1.07	3,592	0.53
1940-44	6,507	1.02	3,081	0.48	1,859	0.29	592	0.09	8,366	1.31	3,673	0.58
1945-49	6,952	0.95	2,674	0.37	1,381	0.19	404	0.06	8,333	1.14	3,078	0.42
1950-54	6,293	0.77	1,448	0.18	879	0.11	174	0.02	7,172	0.88	1,622	0.20
1955-59	3,915	0.45	630	0.07	537	0.06	80	0.01	4,452	0.51	710	0.08
1959	646	0.36	106	0.06	61	0.03	8	0.00	707	0.39	114	0.06
1960	662	0.36	106	0.06	87	0.05	12	0.01	749	0.41	118	0.06
1961	607	0.33	85	0.05	85	0.05	12	0.01	692	0.37	97	0.05
1962	591	0.31	99	0.05	75	0.04	10	0.01	666	0.35	109	0.06
1963	540	0.28	84	0.04	69	0.04	5	0.00	609	0.32	89	0.05

*Rate per 1,000 population

Domiciliary Visits

The link between the Chest Clinic and the patient at home continued to be provided by Health Visitors and Tuberculosis Visitors by domiciliary visiting. Both Health Visitors and Tuberculosis Visitors attended Chest Clinics to discuss the needs of their patients with the Chest Physician.

Summary of Work Carried Out by Health Visitors/Tuberculosis Visitors during 1963

	Tuberculosis households visited		Additional information available for Tuberculosis Visitors only	
	Tuberculosis Visitors	Health Visitors	Visits to households	Chest Clinic Sessions
Colchester M.B.	—	150	—	—
North-East Essex	—	175	—	—
Mid-Essex	—	1,113	—	—
Basildon U.D.	—	203	—	—
South-East Essex	—	231	—	—
South Essex	563	130	5,248	785
Harlow	81	1	1,214	291
Forest	403	139	3,048	565
Romford	1,746	93	3,322	266
Barking	554	33	2,343	319
Dagenham	878	31	3,023	258
Ilford	719	16	2,123	530
Leyton	362	481	697	579
Walthamstow	276	14	1,205	677
TOTALS	5,682	2,810	22,223	4,270

Follow-up of Contacts

During 1963, 540 cases of respiratory tuberculosis were notified (51 less than in the previous year) and the number of contacts examined for the first time totalled 4,863, an increase of 1,800 compared with 1962.

Open Air Shelters

Although the need for open-air shelters is still apparent, the number of cases requiring shelters is declining, and by the end of 1963 the number of open-air shelters in use had dropped to 9 as compared with 14 the previous year. 38 routine visits were made to these shelters during the year.

B.C.G. Vaccination

Vaccination of Mantoux negative contacts of cases of respiratory tuberculosis continued during 1963. There was a reduction of 304 in the number of contacts skin-tested during the year as compared with 1962, the total number being 2,185. Details of the work undertaken during the year is shown below:—

	1961	1962	1963
Number of contacts skin-tested	2,500	2,489	2,185
Number of contacts found to be positive ...	474	652	336
Number of contacts found to be negative ...	2,026	1,823	1,813

Facilities for the B.C.G. vaccination of school children continued and details of these vaccinations compared with 1961 and 1962 are as follows:—

	1961	1962	1963
Number of pupils and students skin tested	20,055	17,000	16,429
Number of pupils and students undergoing tuberculin tests:—			
Positive result	1,553	1,606	1,335
Negative result	18,136	14,695	14,430
Vaccinated with B.C.G.	17,850	14,456	14,310

Occupational Therapy for the Tuberculous

Miss Z. E. Mercer, Occupational Therapist, continued her work of providing occupational therapy for tuberculosis patients residing in the Barking, Dagenham, Ilford and Romford Health Areas and in part of the South Essex and Forest Health Areas and I am indebted to her for the following report on her work:—

"The extremely bad weather during the first two months of the year was responsible for the slightly lower figures for the year's visits. Many patients became much too ill to attempt even the lightest occupations. When road conditions became impossible Postal Services were utilised to keep in touch with all patients.

Visits for 1963 were as follows:—

Clinics	50
First Visits	30
Re-Visits	808
Ineffective	32
Other Visits	195
Total ...	1,115
New Patients	30
On Register 31st December, 1963 ...	60

Some of the areas covered by the Occupational Therapist are:—

Barking, Dagenham, Romford, Ilford, Hornchurch, Grays, Chadwell St. Mary, Stanford-le-Hope, Harold Hill, Hutton, Harlow, North Weald, Loughton.

This year at the Essex Show, in the Health Services Exhibition, a very wide range of articles was displayed demonstrating the high standard of proficiency attained by most patients. Some of the goods were sold. Following this, further sales were made from the stall of the Dagenham Tuberculosis Care Association at the Dagenham Town Show. In addition, work was entered in competitions at the Town Show where patients won several prizes, viz:—

3 First, 2 Second, 3 Third, 2 Very Highly Commended, 2 Highly Commended.

Seven patients also entered work in the Essex Old People's Welfare Committee Exhibition in Ilford and gained 3 First prizes, 2 Third and 2 Highly Commended.

If it appears that too much emphasis is laid on sales and competitions, it must be pointed out that all the patients who qualify for this service are homebound. By means of this type of competition work a patient can realise the progress he has made and thus be stimulated to continue to improve his standard. This interest helps to keep a healthy mind, and in some cases helps to alleviate physical distress. One man has said that he is not so conscious of his breathing difficulties when he is absorbed in the intricate design he is attempting. Consequently, he does not need to use oxygen as frequently. A wife has said that her husband is not so irritable and she is able to leave him for short periods when he is busily occupied.

Some of the completed articles are sold, slightly above cost to enable patients to obtain more materials. Any tools and equipment required are loaned to the patient until he can purchase his own by means of the small amounts of cash which accumulate from these sales.

The guidance of the Chest Physician, the interest of the Tuberculosis Health Visitors and the co-operation of the patient all contribute to the continuing success of this Service."

Extra Nourishment

At the end of the year 1,244 patients were receiving one pint of milk a day free of charge, two more than at the end of 1962.

Rehabilitation

Financial responsibility continued to be given for the maintenance of patients at Rehabilitation Centres and at the end of the year two patients were being assisted.

Mass Miniature Radiography

The three mobile mass radiography units of the North-East Metropolitan Regional Hospital Board continued to operate in those parts of the Administrative County within the catchment area of the Board. A total of 123 visits were made at sessions held for the general public and at factories, hospitals, etc., this being an increase of 30 over the previous year.

Information given by the Regional Hospital Board indicates that 107,765 persons were X-rayed (64,596 males and 43,169 females).

Books for Tuberculous Patients

Five patients borrowed a total of 231 books from the Hospital Library Service operated by the Joint Committee of the British Red Cross and Order of St. John of Jerusalem. Compared with the year 1962 these figures show an increase of one in the number of books borrowed whilst the number of patients who availed themselves of these facilities remained the same.

Tuberculosis Care Associations

The expenditure of the 18 Associations in the Administrative County amounted to £11,228 compared with £12,106 for 1962. An indication of the way in which this money was spent is given below:—

	£
Milk and groceries	7,125
Fuel	550
Fares	513
Clothing, furniture, etc.	335
Holidays, outings, etc.	219
Diversional Therapy	41
Other grants	1,074
Special efforts	927
Printing, postages, etc.	444

The expenditure for 1963 is approximately £1,000 below that of the average of the previous 5 years which suggests that the extension of the scope of Care Committees to assist persons suffering from other chest conditions has not increased the total demands made upon these Associations.

The County Council decided to continue making grants to the Associations on the same basis as in previous years, i.e. £2 for each 1,000 population plus the reimbursement of petty cash expenditure up to £25. Included in the total sum paid by the County Council to Tuberculosis Care Associations was the sum of £2,800 which was made available for distribution by the Licensing of Places of Public Entertainment Committee from the Sunday Cinema Fund.

OTHER ILLNESSES

Recuperative Convalescence

A total of 570 patients were provided with convalescence under Section 28 of the National Health Service Act 1946, during 1963 compared with 582 in 1962. Owing to the increased charges made by convalescent homes, it was necessary for the standard weekly charge for convalescence to be increased from £3 12s. 6d. to £4 17s. 0d. but this figure was subject to abatement in necessitous cases. Assistance with travelling expenses continued to be given in appropriate cases.

Loan of Sickroom Equipment

The scheme for the provision of sickroom equipment on loan remained unchanged during 1963 and equipment required by patients could be obtained through either the Home Nurse, the Health Area store or from the store of equipment held centrally in the case of certain larger items of equipment.

INFECTIOUS DISEASES

Typhoid Fever

At the beginning of June an outbreak of typhoid fever occurred in the Harlow Urban District and a full report upon this is appended with the kind permission of the authors, Dr. I. Ash, Medical Officer of Health; Dr. G. Donald W. McKendrick, Consultant Physician in Infectious Diseases; Mr. M. H. Robertson, Consultant Pathologist; and Mr. H. L. Hughes, Chief Public Health Inspector for Harlow; and of the Editor of "The British Medical Journal" in which journal the article originally appeared on 6th June, 1964.

Poliomyelitis

A small outbreak of poliomyelitis occurred at Dengie in the Rural District of Maldon, involving one confirmed and one suspected case. Whilst, on a purely numerical basis, this outbreak was rather insignificant, some useful points emerged. Firstly, that close co-operation between the family doctor, the Medical

Officer of Health and the Local Health Authority is essential. Secondly, that though it was the first occasion that oral vaccine had been used in that area, a more involved programme could if necessary be carried out, and thirdly, the need for early tracing of contacts.

VACCINATION AND IMMUNISATION

Smallpox

No notifications of smallpox were received during 1963 but details of the numbers vaccinated and re-vaccinated against smallpox during the year are shown in the following table:—

	Under 1 Year	1 *Year*	2-4 *Years*	5-14 *Years*	15 *Years and over*	*Total*
Number vaccinated	3,661 (20,746)	2,652 (6,399)	539 (12,873)	685 (61,653)	1,719 (108,914)	9,256 (210,585)
Number re-vaccinated	2 (70)	11 (143)	304 (4,679)	854 (39,425)	5,131 (145,697)	6,305 (190,010)

A considerable reduction is shown compared with 1962, the figures for which are shown in parenthesis, but it will be recalled that during that year one confirmed and one suspected case of smallpox occurred.

Diphtheria, Whooping Cough and Tetanus

The scheme for the use of combined antigens continued to operate smoothly and details of the number of immunisations carried out during the year are given in the following table:—

	Children born in years—							
	1963	1962	1961	1960	1959	1954-1958	1949-1953	*Total*
A. Number of children who completed a full course of primary immunisation								
Diphtheria	7,680	14,585	2,780	456	278	1,593	907	28,279
Whooping Cough	7,688	14,313	2,414	391	201	410	95	25,512
Tetanus	7,679	14,558	3,320	1,221	884	8,845	6,248	42,755
B. Number of children who completed a secondary (re-inforcing) injection								
Diphtheria	36	2,754	3,363	453	537	11,824	2,374	21,341

The number of treble, double and single antigen injections given during 1963 is given below :—

	Primary Courses	*Reinforcing Injections*
Triple (Diphtheria/Pertussis/Tetanus) ...	24,825	8,870
Double (Diphtheria/Tetanus)	3,151	3,963
Diphtheria	678	10,013
Pertussis	557	823
Tetanus	16,474	9,455

Some concern was felt at the number of cases where there had been a reaction following an injection of combined antigens. During the year 26 such cases, some severe, were reported and details were sent to the manufacturers together, where possible, with a sample of the antigen for analysis. During the latter part of the year a conference was held between representatives of the manufacturers and Assistant County Medical Officers who had experienced such cases at their clinics to discuss the whole question of reactions and this resulted in a standard form for reporting these cases being introduced.

Poliomyelitis

The scheme for poliomyelitis vaccination proceeded uneventfully and the information given below shows the number of primary doses of vaccine given during the year :—

Year of Birth	*Salk Vaccine*	*Sabin (oral) Vaccine*
1963	331	3,505
1962	1,508	18,491
1961	314	4,126
1943 - 1960	286	4,614
1933 - 1942	184	1,818
Others	178	1,764
Total	2,801	34,318

In addition the following reinforcing doses were given :—

Salk Vaccine

3rd injections	5,201
4th injections	2,844

Sabin (Oral) Vaccine

After :

2 doses Salk Vaccine	9,315
3 doses Salk or Sabin or 2 Salk and 2 Sabin Vaccine	25,000

Yellow Fever

A total number of 133 vaccinations were carried out at the Yellow Fever Centre at the Health Services Clinic, Coval Lane, Chelmsford, during 1963, this being 24 less than during the previous year. Vaccinations, which were arranged by appointment, continued to be charged at the rate of one guinea, the charge being subject to abatement in accordance with the Council's assessment scales for persons normally resident in the Administrative County.

ESSEX EPIDEMIOLOGICAL COMMITTEE

No meeting of the Essex Epidemiological Committee was held during the year under review.

VENEREAL DISEASE

Figures submitted by the Special Clinics show that during 1963 there was a decrease of 80 cases of syphilis and gonorrhoea diagnosed compared with the combined figure for 1962, the number of new cases of syphilis diagnosed being the lowest recorded for some years. The total shown below gives details of cases notified during the last five years:—

	1959	1960	1961	1962	1963
Syphilis	67	66	76	58	40
Gonorrhoea	357	395	419	458	396

The analysis of new cases notified, according to clinics at which the diagnosis was made, is shown in the following table:—

Place of Diagnosis	*Syphilis*	*Gonorrhoea*	*Other Conditions*
Essex	22	173	1,313
London	14	189	1,446
Elsewhere	4	34	163

HEALTH EDUCATION

Administratively, Health Education is divided. The day-to-day work is the responsibility of Area Medical Officers and, with one or two exceptions, is supervised by Area Superintendent Health Visitors although during the year the County Council approved in principle the appointment of Health Education Officers for Health Areas, which should result in due course in an improved health education service as these officers will be able to concentrate their efforts on the job in hand. There is also central administration designed to assist Health Area staffs and to co-ordinate their work when necessary. The central administration is supervised by the County Health Education Organiser and an Assistant Health Education Organiser. There is a Health Education Centre consisting of a

combined cinema and lecture room, a photographic room, a fully equipped workshop and a large storage area for exhibition materials. In this Centre films are previewed by a selected panel of staff before they are shown throughout the Administrative County. In-Service training courses are held, photographs are developed and printed and exhibitions and other visual aids are created.

Interest and demand for health education throughout the Adminstrative County continues to increase steadily and during the year every effort was made to cover such subjects as dental health education, mouth-to-mouth resuscitation, smoking and health, home safety and food hygiene as well as more routine subjects such as vaccination and immunisation.

Dental Health Education

The Harlow Dental Health Education Campaign which is designed to last for five years, has now entered its penultimate year and reference to this Campaign has been included in the report of the Chief Dental Officer. I am pleased to be able to report, however, that a commencement has been made in extending the type of teaching developed in Harlow to schools in other parts of the Administrative County. Full-scale dental health weeks were held at seven schools and talks and films at two other schools. It is hoped that the time will come when all schools can be visited as this method is no doubt the best to secure healthy teeth for our children.

Mouth-to-Mouth Resuscitation

The mouth-to-mouth method of resuscitation has received a great deal of publicity in the Press. In keeping with this publicity an intensive effort was made and some 130 demonstrations were given at 40 Schools, 29 Health Services Clinics, 19 Ambulance Training Courses as well as Hospitals, Clubs, Domestic Help Training Courses. These visits take the form of a film and a demonstration with a life-size model on which members of the audience are subsequently invited to practise.

Smoking and Health

Propaganda on smoking and the danger to health continued throughout the year. Campaigns were held in eleven schools as well as at a Teachers' Training College, Health Services Clinics, an educational conference, youth clubs and other clubs. In addition, visits were made to two Health Areas by a mobile unit hired from the Central Council for Health Education. This Unit visited 18 schools and from the reports on these visits submitted by Area Medical Officers it seems that generally they served a useful purpose. Apart from these special campaigns, every opportunity was taken, in the course of normal health education activities, to bring the dangers of smoking before the public attention.

Royal Society for the Prevention of Accidents

The County Council continued to make a financial grant to the Royal Society for the Prevention of Accidents and the literature produced by the Society was made available to Area Medical Officers.

Home Safety

A new Home Safety Committee was formed in Chelmsford during the year, bringing the total number of Committees in operation in the Administrative County at the end of the year to 12. A grant of £20 was again made to each Committee.

In addition to the sterling work undertaken by the voluntary bodies, a considerable amount of publicity was given to the prevention of accidents by Area Medical Officers and the Central Office staff by way of film shows and exhibitions. The Central Office staff also co-operated with a number of Medical Officers of Health by supplying and erecting displays for local exhibitions, a carnival float and also a mobile exhibition which travelled extensively in the south-east area of the County.

Film Shows

In all, a total of 901 film shows were given and 1,316 films were shown. Comparative figures for 1962 were 489 and 1,001 respectively.

Although there was an increase both in the number of film shows and the total number of films shown, the average number of films used at each show reduced considerably. This seems to indicate that films are not being used either as a substitute for a talk or for entertainment value but as an aid to teaching.

Two notably important advances were made during the year in the field of health education. Firstly, the increasing number of calls on the Health Education services from outside bodies, both voluntary and statutory for assistance in various projects and, secondly, it was possible to extend activities to Teachers' Training Colleges. Films on smoking and health were shown at one college on nine separate occasions and at another college the Health Education Organiser lectured to students on two occasions and it is hoped that during 1964 it will be possible to promote a dental health week at this latter college when pupils at a nearby school will be able to attend to give the student teachers an opportunity of seeing this work in operation.

Venereal Disease

As a result of the sharp rise in the number of cases of venereal disease reported throughout the country as a whole, especially among young persons, teaching on this subject was generally increased and efforts were concentrated on the younger section of the community.

Health education in connection with this matter is, however, a difficult undertaking and the visual aids available are relatively few. It was felt, therefore, that this is a problem which instead of being approached separately should be included as a natural adjunct to other subjects such as "personal hygiene" or "parentcraft," both of which are included in the Health Education programme in schools.

Accordingly, wherever possible, propaganda was introduced into the school programme with the co-operation of the teachers, and to this end meetings with headmasters and their staffs were held during which the facts and figures and the latest films on venereal disease were shown so that they could introduce the subject in appropriate lessons in a manner which they considered to be acceptable to the children.

Posters advertising venereal disease clinic sessions held at hospitals continued to be exhibited in suitable places throughout the Administrative County.

DOMESTIC HELP SERVICE

The following table gives details of whole-time, part-time and casual helps employed in the Service over the past five years:—

Category	1959	1960	1961	1962	1963
Whole-time helps	21	17	22	21	19
Regular part-time helps	1,406	1,242	1,688	1,773	1,931
Other helps (casual)	1,145	1,575	1,297	1,383	1,269
TOTAL	2,572	2,834	3,007	3,177	3,219

The number of new cases helped during the year was 8,557, an increase of 272 cases over the previous year. The total number of cases helped was 18,992, an increase of over 5 per cent. on the 1962 figure, the total of hours of help provided being 2,484,000.

New cases

Category	1959	1960	1961	1962	1963
Aged persons	3,758	3,762	3,873	3,917	4,464
Chronic Sick (including Tuberculosis) under 65 years	851	829	792	816	764
Maternity	2,121	2,314	2,403	2,469	2,362
Others	1,058	1,069	1,181	1,084	967
TOTAL NEW CASES	7,788	7,974	8,249	8,286	8,557

Total number of cases and hours provided

tegory	1959		1960		1961		1962		1963	
	No. of Cases	*No. of hours provided*	*No. of Cases*	*No. of hours provided*	*No. of Cases*	*No. of hours provided*	*No. of Cases*	*No. of hours provided*	*No. of Cases*	*No. of hours provided*
persons	9,096	1,580,700	10,086	1,712,300	11,183	1,780,900	11,948	1,866,500	13,324	2,021,400
ıic Sick .er 65 's (inclu- Tuber-)sis) ...	1,843	344,200	1,911	356,500	2,047	360,900	2,103	349,700	1,952	293,200
nity ...	2,192	112,300	2,406	114,500	2,529	107,600	2,611	105,500	2,527	99,700
s ...	1,238	87,600	1,285	94,200	1,418	90,200	1,378	84,700	1,189*	69,700
	14,369	2,124,800	15,688	2,277,500	17,177	2,339,600	18,040	2,406,400	18,992	2,484,000

* Including the following cases:—

Mental disorder under 65 years ...	61
Acute illness	809
Harassed mothers	91
Problem Families	13
Absence of Mother	167

Meetings of Domestic Helps

Meetings of domestic helps may be arranged by Domestic Help Organisers to discuss any problems of a general nature that arise from time to time and although this is a fairly simple matter in urban areas, it is much more of an undertaking in a rural district. Nevertheless in the Mid-Essex Health Area, a series of meetings were arranged at which the County Domestic Help Organiser talked to the helps present and a discussion followed. In addition a successful Rally was held in Chelmsford for the helps in this Health Area at which 90 attended.

Training Courses

During the year three centrally run training courses took place and three Area training courses were held. These courses are much appreciated by the helps and the organisers and of particular value are the benefits which accrue from the personal contacts between lecturers and helps and between the helps themselves. The resulting exchange of knowledge and experience produces an increased understanding and toleration of the problems met by the helps in their work. This also stimulates their ability to apply their extended knowledge to particular situations.

NIGHT ATTENDANCE SERVICE

The Night Attendance Service, which has been provided since 1st December, 1959, as a directly-operated service throughout the whole of the Administrative County, continued during 1963 for the following types of cases:—

(a) patients residing alone who were seriously ill;

(b) patients seriously ill in their own homes where an aged husband or wife could not provide the necessary assistance; and

(c) the relief of relatives who had to give routine attention to sick people.

The calls on this service were again slightly fewer than in the previous year and the following summary gives an indication of the amount of night attendance provided during the year under review.

	Patients residing alone	*Inability of aged husband or wife*	*Relief of Relatives*	*Total*
Requests for help	61	40	184	285
New cases helped	52	35	135	222
Cases completed	53	35	139	227
Cases being helped	1	1	5	7
Total cases helped.....	54	36	144	234
Hours of assistance.....	3,080	3,381	12,341	18,802

FACTORIES ACTS, 1937 AND 1948

It was not found necessary to take any action during 1963 under Section 126 of the Factories Act 1948 whereby the County Medical Officer of Health is liable to perform or to arrange for the performance of the functions of factory doctors.

NATIONAL ASSISTANCE ACT, 1948

A Principal Senior Medical Officer made 64 visits to hostels maintained by the Welfare Committee. During these visits the opportunity was taken to give advice on the prevention of the spread of infection, diets, the correct use of isolation rooms, the sterilisation of equipment and also to review the arrangements for the provision of chiropody for the residents.

Welfare of the Blind and Partially Sighted

A total of 546 Forms B.D. 8 were completed during 1963 in respect of new cases, including 29 found to have defective vision and 33 who were not eligible for registration. As a result of these examinations 316 persons were registered as blind and 168 as partially sighted. In addition 357 re-examinations were under-

taken with a view to re-classification of the patients concerned and the results of these examinations were:—

Blindness	113
Partial Sightedness	190
Defective Sightedness	31
Not eligible for registration ...	23

The table which follows gives a summary of the information obtained in following up all the new cases where treatment was recommended on Forms B.D.8.

	Cause of Disability			
	Cataract	*Glaucoma*	*Retrolental Fibroplasia*	*Others*
New cases only:—				
(1) Number of cases registered during the year in respect of which Form B.D.8 recommended—				
(a) No treatment	72	19	1	258
(b) Treatment (medical, surgical or optical)	71	49	—	100
(2) Number of cases at (1)(b) above which on follow-up—				
(a) Had received treatment	50	40	—	79
(b) Had refused treatment	8	—	—	—

The County Welfare Officer has kindly supplied the following information relating to the registration of persons found to be blind or partially sighted.

The total number of blind persons on the register at the end of 1963 was 3,354 and of these 1,287 were males and 2,067 were females. The age groups of these patients were as follows:—

	Under 16 years	16-20	21-29	30-39	40-49	50-59	60-64	65-69	70 & *over*	*Total*
Male	39	21	37	64	116	146	105	135	624	1,287
Female	39	20	37	42	69	157	117	179	1,407	2,067
TOTAL	78	41	74	106	185	303	222	314	2,031	3,354

At the end of 1963, 972 persons were registered as partially sighted and of these 370 were males and 602 females. The age grouping of the patients was as follows :—

	Under 16 years	16-20	21-49	50-64	*65 and over*	*Total*
Male	48	29	100	60	133	370
Female	28	20	66	92	396	602
TOTAL	76	49	166	152	529	972

CHIROPODY

The total equivalent whole-time staff of chiropodists employed at the end of the year was 47·5 which, although an increase of 1·3 as compared with the previous year, did not enable the rate of expansion which took place during 1962 to continue.

Comprehensive chiropody facilities provided in four Health Areas and treatment to priority categories, e.g. the aged, the physically handicapped and expectant mothers, in the remaining Health Areas, were maintained and increased where possible.

The voluntary services operated by Old People's Clubs continued in places where, owing to the shortage of chiropodists, the Council were unable to offer a Service and in these instances a grant was made to the Essex Old People's Welfare Committee to assist in the running of these voluntary services.

The number of homes for aged persons maintained by the County Welfare Committee at which chiropodists provided treatment for residents continued to increase and at the end of the year 50 such Homes were being visited.

Details of the number of treatments given are summarised in the following table :—

	New cases treated	*Cases under treatment*	*Clinic attendances*	*Domiciliary treatments*	*Treatments at Welfare Committee's Establishments*
Children	1,059	728	5,972	7	—
Physically handicapped	329	643	3,399	2,588	541
Aged over 65 years	5,290	18,892	78,674	14,766	6,181
Others	1,687	5,424	22,120	—	93
TOTAL	8,365	25,687	109,265	17,361	6,815

REGISTRATION AND INSPECTION OF NURSING HOMES

There were 16 nursing homes registered by the County Council under Part VI of the Public Health Act 1936 at the end of 1963. During the year one nursing home closed. The Nursing Homes Act 1963 authorised the Minister of Health to make Regulations as to the conduct of nursing homes. These regulations, cited as the Conduct of Nursing Homes Regulations 1963, came into operation on 27th August.

AGENCIES FOR THE SUPPLY OF NURSES

At the beginning of 1963 there were no agencies registered in the Administrative County. One Agency was opened in September 1963 but subsequently closed in December 1963.

SECTION VI—THE AMBULANCE SERVICE

Operation of the Service

The operational control of the County Ambulance Service continued on the re-organised basis referred to in the Reports for 1961 and 1962. All requests for ambulance transport, whether for emergencies or for routine journeys, are received by the Divisional Ambulance Controls at Chelmsford and Ilford. In order to cope with the increased demands made on the two Controls and to increase the efficiency of the Service still further it was found necessary towards the end of the year to make some slight changes in the gradings of the staff and appoint two extra staff at Chelmsford Control.

The re-organisation referred to above also meant certain changes in the arrangements for the management of Ambulance Stations and the supervision of personnel. This part of the scheme has not yet, however, been fully implemented for various reasons and it has been found necessary to have further discussions with the representatives of the ambulance personnel in order to explain more fully the way in which it is intended the Service will operate in the future.

An ambulance and crew are outposted at Waltham Abbey during the day to meet increased demands in the area, and similar arrangements at Rochford will be continued pending the provision of a small Ambulance Station in this district. A direct telephone line has been installed between St. Margaret's Hospital, Epping and the Divisional Ambulance Control at Chelmsford, the cost being shared between the County Council and the hospital authorities.

The agency services remained unchanged at the end of the year.

The staff were encouraged to obtain a First Aid Certificate and to take a refresher course at intervals not exceeding three years. In this connection steps are being taken with a view to requiring ambulance personnel to attain a higher degree of qualification in First Aid. At the end of 1963 the Driver Attendants, with few exceptions, held current first aid qualifications recognised by the County Council.

Vehicles and Equipment

In furtherance of the policy of the County Council to improve the quality of the sitting case fleet, 21 of the petrol type sitting case vehicles which had come to the end of their useful life were replaced by a smaller type vehicle capable of carrying six or seven patients, with provision for a stretcher for use in an emergency. These vehicles were brought into service in the early part of the year and have since been in constant use, with favourable results.

In order to meet a growing need for a still smaller and more comfortable and manoeuvrable type of vehicle, it was, after experiment, decided to replace eleven redundant ambulance vehicles with a similar number of diesel-engined "London Taxi" type vehicles. These vehicles are to be specially constructed and adapted for ambulance work and will be used for the conveyance of single or small numbers of patients, particularly on long journeys, where it is clearly uneconomic to use the larger type of vehicle.

At the end of the year there were 199 diesel-engined vehicles and 8 petrol-engined vehicles in use in the Service. In addition, three of the older-type vehicles have been retained as store vehicles for use in conveying in bulk first aid equipment to major accidents. These vehicles are kept in readiness at all times. Another old-type vehicle has been retained and converted for use as a float in Carnival processions and other functions where the work of the Ambulance Service can be depicted.

The total fleet now numbers 106 ambulances, 82 sitting case vehicles and 19 dual-purpose vehicles. 125 of these vehicles are capable of carrying two stretcher patients, one stretcher and five sitting patients or eight sitting patients. Approximately 15% of the total number of vehicles in the Service continue to be held in reserve for use in any part of the County.

Further experiments were made in 1963 with various types of equipment with a view to improving, if possible, the high standard already existing. Blue flashing lights have now been fitted to all ambulances as envisaged in the Report for 1961 and, when used in conjunction with the warning bell, have proved extremely useful in aiding movement in heavy traffic. Four new vehicles have been fitted partly with special seats which have an individual

form of patented suspension and partly with normal seating. These are now being tested under operational conditions to see if the special seats provide additional comfort for patients.

All dual-purpose ambulance vehicles have now been equipped to the same standard as ambulances and each ambulance is now equipped with a cylinder of oxygen fitted with a fine adjustment valve and flow meter, together with supplies of disposable face masks. The latter equipment replaces older type apparatus which has been found heavy and cumbersome in the light of the more modern equipment, but which will continue to be used for the time being on dual-purpose vehicles.

In this connection, so far as life-saving equipment in emergencies is concerned, it is generally agreed, in the light of current experience, that artificial respiration by the " mouth to mouth " method is more efficient than methods formerly used. This particular method, however, has one or two disadvantages, and an improvement is the use of a bellows-type resuscitator, such as the " Porton," which is small, light to carry and can be used whilst a patient is carried on a stretcher to and from an ambulance. Every ambulance is therefore provided with a " Porton " resuscitator and dual-purpose vehicles will be similarly equipped next year.

Experience has shown that ambulance staff, particularly those at seaside and riverside Ambulance Stations, are sometimes required to undertake boat journeys in rough water to collect patients from liners or in some cases, smaller craft. In order to give ambulance staff some measure of protection, especially if they cannot swim, suitable life jackets have been provided.

The Chief Transport Officer continued to be responsible for the general repair and maintenance of vehicles. Each vehicle is taken to one of the Council's workshops for servicing every 2,000 miles and is given a major overhaul every 10,000 miles.

In the previous report reference was made to the need under modern driving conditions to fit ambulance vehicles with some further means of giving audible warning of their approach, particularly as it has now become apparent that other drivers are not always quick to exercise the normal courtesy by giving way to ambulance vehicles. Various devices have been demonstrated but none has yet proved entirely suitable for our requirements and experiments are being carried out with a system of amplifying the sound of the existing bell. It was also decided to ask the Ministry of Health and other bodies to give publicity to the fact that road vehicle drivers should generally give way to ambulances and to appeal for the co-operation of the public in this matter and the Minister has made reference to this in an official publication called " Turn to Better Driving " which is issued by the Royal Society for the Prevention of Accidents.

In order to eliminate the difficulty previously experienced by Home Nurse Midwives and Mental Welfare Officers in returning to their homes or places of employment after having accompanied a patient to hospital, particularly in rural areas and at night, authority was given for Ambulance Driver Attendants to drive County cars or privately owned cars authorised for use on County business by Home Nurse Midwives and Mental Welfare Officers and to follow the ambulance to the hospital so that the car is immediately available for the Midwife or Mental Welfare Officer after a patient's admission.

Broomfield Hospital, Chelmsford

Broomfield Hospital is situated a considerable distance from the main road and bus stop and persons attending the Out-Patient Department have found the long walk to and from the hospital difficult and tiring, particularly in inclement weather conditions.

To assist both patients and hospital, arrangements were made to loan to the hospital authorities a redundant sitting case vehicle which is maintained by the hospital and is driven by a member of the hospital staff. This vehicle meets patients at the bus stop and conveys them to and from the hospital.

Ambulance Stations

New ambulance stations were opened at Basildon, Harlow and Thurrock and work commenced on the erection of new stations at Ongar and Wickford and the provision of a temporary station at Thundersley. A temporary station has been provided at Rochford pending the construction of a permanent building.

The amount of electrical equipment used on ambulance vehicles, e.g. radio, warning bell, flashing lights as well as the normal equipment fitted to other mechanical transport, means that there is a heavy drain on the batteries which is more noticeable during the winter months and in order to facilitate easy starting battery chargers were installed at the ambulance stations.

Carnival Processions

The specially adapted Ambulance display vehicle was entered in a number of Carnival Processions in the County and received third prize in the Romford Carnival. The displays were undertaken voluntarily by the staff of the Ambulance Service and by the Health Education staff of the Central Office of the Health Department, to stress in particular the importance of courtesy being shown to Ambulance drivers to facilitate the speedy and unhindered conveyance of patients to hospital.

It has been decided that in future the County Ambulance Service will be represented in as many Carnival Processions as possible throughout the County.

First Aid and Efficiency Competition

The First Aid and Efficiency Competition for the County Ambulance Service was held at the Chelmsford Ambulance Station when Driver Attendants S. A. Hamilton and B. J. Lloyd of the Ilford Ambulance Station proved to be the winners and a team from the Saffron Walden Ambulance Station were a very close second. The winning team later took part in the Regional Competition which was held at Battersea Park, London.

Training of Staff

The training courses which commenced during the winter of 1961/62 were continued and were extended to include instruction in the duties of ambulance staff in both peace time and civil defence duties. Commencing in the Autumn of 1963, refresher courses were held at Leyton and Chelmsford and by the end of the winter nearly all the staff of the County Ambulance Service will have attended. It is intended that refresher courses will now be a regular feature of the Ambulance Service and will be arranged as and when appropriate.

National Safe Driving Competition

The awards gained by members of the County Ambulance staff in the 1962 National Safe Driving Competition were presented at ceremonies held at Chelmsford, Colchester and Barking respectively when the Mayors of each Borough kindly made the presentations.

The result of the 1963 competition shows that 457 of the 492 members of the County Ambulance staff were finally eligible for the competition and that 404 of these members were successful in gaining an award. 111 of these awards were in respect of 10 years and over safe driving.

Communications

The system of radio communication in use in connection with the County Ambulance Service has for some time proved below normal standards in some southern parts of the County, mainly in Chadwell St. Mary, Tilbury, Grays and West Thurrock and this has been attributed to the ridge of high land running from east to west just south of the A.13 road in Grays.

Following extensive tests a radio transmitter and mast were sited at Langdon Hills to serve this area. This is linked by radio to the existing transmitter at Danbury and is operated from the Divisional Ambulance Control at Chelmsford. This arrangement has brought about a marked improvement in the standard of radio communication in the Thurrock area.

Incidents

The severe winter which continued into the early months of 1963 made road conditions some of the worst experienced in living memory but despite this the County Ambulance Service carried out its functions to the full. This was only achieved by the devotion to duty of all Ambulance staff, who are to be congratulated on the manner in which they overcame unusual hazards under most difficult conditions.

During this time two incidents occurred which merit special mention and which received official recognition by the County Council. The first was on the 3rd January, 1963, at Shrub End, Colchester where two men who had been working in a trench were buried by a fall of earth. One man was fatally injured and the other was in danger of being asphyxiated. An Ambulance from the Colchester Ambulance Station was called and at great risk to themselves Driver Attendant A. H. Bruckner, one of the Ambulance crew, together with other persons entered the trench and rendered first aid to the injured man until he was extricated. A Certificate of Commendation inscribed on parchment was awarded to Driver Attendant A. H. Bruckner for his meritorious conduct in connection with this incident.

On 21st January, 1963, an Ambulance was sent from the Braintree Ambulance Station to a farm near Great Warley Hall, Fairstead, to deal with a patient who had collapsed through exposure. Heavy snow falls prevented the ambulance from reaching the patient despite efforts by the crew to clear the snow. Chelmsford Control were advised by radio and an Ambulance from the Witham Ambulance Station was sent to the incident to approach from a different direction. This Ambulance was also unable to reach the patient whereupon Driver Attendant W. H. Davison from Witham proceeded on foot across fields and through deep snow for a distance of approximately two miles and so reached the patient. He was able to render assistance and when the patient was sufficiently recovered he was placed on a farm tractor and, supported by Driver Attendant Davison, conveyed to the point reached by the Braintree Ambulance. The patient was then conveyed to Hospital where he eventually recovered.

Statistics

The number of patients conveyed, total mileage involved and the average mileage per patient in 1961, 1962 and 1963 for the whole Service are as follows :—

		Directly Provided Services	*Agency Service*	*Hospital Car Service*	*Whole Service*
Patients conveyed ...	1961	665,613	6,542	50,518	722,673
	1962	639,110	7,314	31,135	697,559
	1963	630,987	4,346	58,256	693,589
Mileage	1961	3,659,050	71,095	834,667	4,564,812
	1962	3,559,057	71,837	927,628	4,558,522
	1963	3,574,690	48,340	1,072,536	4,695,566
Average mileage per patient	1961	5.50	10.9	16.5	6.32
	1962	5.57	9.8	18.1	6.53
	1963	5.70	11.1	18.4	6.80

Fewer patients were conveyed than in previous years but despite this there was an increase in the average mileage per patient. The following table shows the figures for the past ten years and although the downward trend in 1961 was not maintained, the slight increase this year does not compare too unfavourably with previous years :—

Year	*Patients conveyed*	*Mileage*	*Average mileage per patient*
1954	594,166	4,308,453	7.25
1955	628,612	4,341,334	6.91
1956	632,775	4,337,453	6.85
1957	643,542	4,319,136	6.72
1958	693,164	4,376,790	6.31
1959	687,399	4,439,601	6.46
1960	714,902	4,581,779	6.41
1961	722,673	4,564,812	6.32
1962	697,559	4,558,522	6.53
1963	693,589	4,695,566	6.80

Non-emergency Cases

The total number of non-emergency patients conveyed in 1963 was 625,896, compared with 636,037 in 1962. The majority of these were taken to clinics or hospital out-patients' department.

Cost of the Service

The following table, which relates to financial years, shows the total cost of the service, the cost per patient and per mile for the whole service for the last seven years :—

Year ended	*Gross expenditure*	*Cost per patient*	*Cost per mile*
	£	*s.* *d.*	*s.* *d.*
31.3.1956	582,762	18 4	2 7
31.3.1957	642,811	20 3	2 11
31.3.1958	653,406	20 3	3 0
31.3.1959	673,047	19 3	3 0
31.3.1960	658,905	18 9	2 10
31.3.1961	709,695	19 9	3 0
31.3.1962	810,874	22 8	3 6
31.3.1963	847,295	25 2	4 7

Major Accident Procedure

The major accident procedure of the County Ambulance Service was revised at the end of 1962 in the light of the reorganised arrangements for operational control and copies of the procedure were forwarded early in 1963 to all hospitals, general medical practitioners and other persons concerned.

Future Developments

Reference has already been made to the difficulties arising in modern traffic conditions which mean that emergency journeys are gradually taking longer to accomplish, and this coupled with the fact that there are more accidents, may make it necessary to increase the establishment of vehicles and staff to deal with the problem. In order to provide better service however, vehicles have, as already mentioned, been out-posted at Waltham Abbey and Rochford whilst the present proposals in the ten year Development Plan provide for additional small ambulance stations to be erected at Rochford, Walthamstow, Abridge, Waltham Abbey, Ardleigh and North Ockendon.

SECTION VII—THE MENTAL HEALTH SERVICE

Care and After-Care

During 1963 a third Senior Psychiatric Social Worker was appointed and each of the Mental Health Sub-Offices at Colchester, Chelmsford and Romford is now under the Control of such an Officer. For the time being they have not been appointed formally as "Mental Welfare Officers" under the provisions of the Mental Health Act, 1959 although this is being kept under review.

No new cases were taken into guardianship under the compulsory powers of the Mental Health Act, 1959 during the year but one person who is mentally subnormal was discharged automatically on reaching the age of 25 years. Both he and his former guardian, with whom he still maintains communication, have however agreed to continue to accept community care services.

Tables are appended giving details of the number of new cases brought to notice during the year and the number in receipt of community care at the end of the year indicating the form of care and class of mental disorder. The table below shows the number of visits made by the Psychiatric Social Workers and Mental Welfare Officers during 1963 :—

	Number of Visits
Mental Health Act, 1959—Preliminary Visits	2,674
National Health Service Act, 1946—Community Care ...	10,784
Visits in connection with patients' property	186
Visits to patients in hospital	280
Other visits	5,178
Total ...	19,102

Training Centres for the Mentally Subnormal

A purpose-built Junior Training Centre at Harlow was completed and brought into operation on 16th September, 1963, and has enabled accommodation hired temporarily for use as a Centre to be relinquished. This Centre has been designed so that an Adult Training Centre may be added to the premises at a later date and an additional classroom provided for the junior wing should this prove necessary.

Orders were placed for the erection of 100 place Adult Training Centres at Leyton and Chelmsford. These Centres are designed to accommodate both men and women and to permit industrial work as well as the more usual activities to be undertaken. The Centre at Leyton will replace the Walthamstow Adult Training Centre, which is in hired premises and which at present accommodates men, and enable the women at nearby Junior Training Centres

to attend and thus pursue the policy referred to in the report for last year, that where applicable, separate Centres should be provided for juniors and adults.

Work also commenced during the year on the erection of a 24 place Adult Training Centre at Dagenham which will provide industrial work for suitable trainees in that area.

The County Council's tenancy of St. Thomas More Hall, Loughton, which was used to accommodate Loughton Junior Training Centre was due to expire in June 1964 and following difficulties with the landlord and the fact that there was no possibility of the lease being extended pending the provision of a purpose-built centre in this district, alternative temporary accommodation was obtained at St. Gabriel's Church Hall, Grosvenor Drive, Loughton. Arrangements were made for the Centre to be moved during the Christmas Holidays and for it to re-open in the new accommodation early in January 1964.

At the Thurrock Junior Training Centre an additional classroom, together with lavatory and bathroom accommodation, has been provided for children with special disabilities and the existing servery was enlarged to enable teaching in laundry and cooking to be given. Pending the provision of more adequate facilities for mentally subnormal adults in the area, it is proposed to establish a class for adult male trainees at this Centre and to appoint a male assistant to take charge of this.

Additional lavatory accommodation has been provided at the Dagenham Junior Training Centre, which is held in hired premises.

At Colchester the Organiser of Training Centres is conducting a research project at the Junior Training Centre which involves the study of the play habits of mentally subnormal children in an environment which is both safe and satisfying for them. At the present time there is little factual information about the nature of the play habits of such children and it is considered this study will give a clear indication of their needs in a play situation. The Colchester and District Society for Mentally Handicapped Children indicated their willingness to be associated with this work and generously offered a grant of £530 to meet the cost.

The work schemes at Training Centres mentioned in the report for 1962 were continued and extended during 1963. The work included the manufacture of pot scourers, sweet packing, production of sweet cartons, packing of shampoo sachets and other contracts of a similar nature This work, however, is undertaken by a comparatively small proportion of the trainees and the majority, in addition to the normal training procedures, are engaged in making articles which are sold at Open Days or are required at other County establishments, including Training Centres. The sale price of these articles is calculated on the basis of the cost of materials plus 10 per cent. and the revenue was formerly paid into County funds. It was found, however, that this type

of work generally involves greater effort and skill than is required for the type of industrial work undertaken and the cost of the materials used is now regarded as part of the expenses involved in providing training and the total income received in respect of articles made by trainees who have attained the upper limit of compulsory school age will be paid to them.

The Holiday Camp Scheme was continued and is now a regular feature of the activities of the Training Centres. In 1963 a total of 119 pupils and trainees were provided with a week's holiday in Kent.

The experimental schemes for swimming and physical training instruction for trainees at the Barking Junior Training Centre, arranged in conjunction with the South-East Essex Technical College, were continued but apart from arrangements being made for a small number of pupils at the Saffron Walden Training Centre to attend the local swimming bath it has not been found possible to arrange for these schemes to be extended elsewhere.

Last year reference was made to the foggy weather and icy road conditions at the end of 1962 which caused a certain amount of difficulty at the Training Centres. Owing to the prolonged period of inclement weather and snowy conditions which existed at the early part of 1963 these difficulties persisted but the staff of the Centres, the Mental Welfare Officers and the drivers of the transport hired for the conveyance of pupils responded magnificently in keeping the Centres operating and I welcome the opportunity of placing on record my appreciation of their efforts. Apart from one or two closures for very short periods the Training Centres were able to remain open throughout the winter.

Residential Accommodation

Two further hostels were completed and brought into operation during the year. Westmarsh Lodge at Harold Wood Hall, Romford provides accommodation for 30 mentally subnormal men and Eastwick House, Council Road, Stanway, provides for the same number of mentally subnormal women. Difficulties were again experienced in appointing suitable staff but at the end of the year both were in operation to a limited extent. It was intended that these hostels should provide accommodation for those persons who were either employable or were suitable to attend a Training Centre but whose home circumstances were unsatisfactory. As a measure of co-operation, however, 15 beds at Eastwick House were offered to the Royal Eastern Counties Hospital Management Committee for patients who were suitable for discharge. A limited number of beds have also been offered to the South Ockendon Hospital Management Committee at Westmarsh Lodge.

Orders were placed for the erection of two further hostels which are each designed to provide accommodation for 26 persons recovering from mental illness. One, to be known as Havengore, is being built in Stanway and the other to be known as Collier Lodge, is at Harold Hill, Romford. Both hostels should be ready for occupation before the end of 1964.

Holliwell Lodge at Stanway, a hostel for mentally subnormal children, continued in operation and the staffing situation improved. In the light of experience however it was considered desirable to have someone on duty each night and the establishment of staff here, and at Eastwick House and Westmarsh Lodge, was varied by the addition of two posts of night attendant.

An offer made by the Colchester Cage Birds Society to provide free of charge sufficient birds to stock an aviary at Holliwell Lodge was accepted as it was thought this would be of considerable interest to the children. In addition, two residents of Wivenhoe donated a sum of money for the provision of a tree and a garden seat for this Hostel.

In continuation of the policy of providing so far as possible the facilities enjoyed in normal households, the Warden of Holliwell Lodge was authorised to arrange suitable outings at weekends and holiday periods for the children. It is likely that similar arrangements will be made in due course in respect of other hostels for the mentally subnormal.

Owing to the difficulties in recruiting sufficient and suitable staff for the hostels it was decided, when reviewing the ten year Development Plan, to slow down the rate of expansion until more experience could be gained in this field. In the autumn, however, a conference was arranged between Members of the County Council, the North East Metropolitan Regional Hospital Board and representatives of the Hospital Management Committees of psychiatric hospitals in order that a full discussion could take place in regard to the provision of hostel accommodation. Arrangements were made for the hospitals concerned to provide full information about their requirements and a further meeting of officers will be held in due course in order that the County Council may be enabled to prepare a realistic programme in the light of all the information available.

During the year continued use was made of residential accommodation provided by voluntary organisations and private individuals. There were an increasing number of requests for temporary residential care to enable parents and relatives to be relieved of the care of mentally disordered persons, particularly during holiday periods and every effort was made to meet these requirements. Temporary care was provided for 143 patients for varying periods during the year at the expense of the County Council whilst 46 patients were admitted for short periods to hospitals under arrangements made by the County Council's staff.

Staff

When the seven posts of Senior Psychiatric Social Worker were created in 1961 it was the intention that each Officer should take charge of a Mental Health Sub-Office but in anticipation of difficulties in recruiting staff it was agreed that as a temporary measure an existing Mental Welfare Officer should be appointed as a Senior Mental Welfare Officer to be in charge of each

sub-office. Following the appointment of the first two Senior Psychiatric Social Workers, however, this matter was reviewed and it was decided to have a Senior Mental Welfare Officer attached to each sub-office. The additional responsibilities being undertaken by such officers are reflected in the relinquishment of the post of Assistant Supervising Mental Welfare Officer.

The Mental Health Act 1959 envisaged a re-orientation of the Mental Health Service away from custodial care when the special facilities of the hospital service are not needed and towards care in the community. As a result, greater emphasis is being placed on social case work and welfare generally which together with the provision of additional facilities such as residential accommodation and sheltered employment, will inevitably involve an increase in the number of social workers employed. It is apparent that this process of expansion will continue for some years and having regard to this and the fact that a number of the existing Mental Welfare Officers will reach retiring age during the next few years, it is proposed for the time being to continue recruiting four trainees each year. This matter is, however, being kept continually under review with a view to determining if possible the maximum number of social workers likely to be needed in the Administrative County.

An in-service training course for the staff employed at the Training Centres, which lasted one week, was held in the Chelmsford Junior Training Centre in September. The course entitled "The Training and Education of the Mentally Handicapped" was arranged by the Organiser of Training Centres and proved to be very successful.

In anticipation of suitable courses being organised for the older and more experienced Mental Welfare Officers, four posts of Peripatetic Mental Welfare Officer were created so they could cover the work undertaken by the Officers seconded to attend these courses. Two such Officers were appointed during the year and until such time as they are required for their primary function, have been attached to the Rayleigh and Harlow Sub-Offices but are available to cover other Areas if necessary when staff are absent through illness or leave.

Social Clubs

The Goodwill Social Club at Ilford continued to function under the guidance of one of the Mental Welfare Officers and a Medical Officer from Goodmayes Hospital provided the necessary psychiatric support. During the year the Social Workers of Claybury Hospital, Woodford Bridge, established a social club for patients discharged from that hospital with the idea of linking up with Debden Community Association for the further rehabilitation of the patients. Dr. D. V. Martin, the Physician Superintendent, has taken an interest in this venture and is arranging for Medical Officers of the hospital to provide psychiatric support and supervision. The County Council has agreed to pay the cost of renting suitable accommodation, give financial assistance towards the cost of equipment and maintenance on the same basis

as the arrangements at the Goodwill Social Club and a Mental Welfare Officer taking over responsibility for the Club's administration.

As in previous years, the County Council continued the grant to a similar club organised by the East Ham County Borough Council and also paid a voluntary organisation the cost incurred in respect of a few Essex residents who attend social clubs operated in the London area.

Approval of Medical Practitioners

Five medical practitioners were approved during the year for the purposes of Section 28 of the Mental Health Act 1959 and at the end of the year a total of 67 approvals had been given by the County Council.

Mental Nursing Homes

The two mental nursing homes registered in accordance with the provisions of Part III of the Mental Health Act 1959 continued in operation. During the year, notes of guidance were issued for the information of persons carrying on or proposing to carry on mental nursing homes in the Administrative County following the making of The Conduct of Mental Nursing Homes Regulations 1962 by the Minister of Health.

Voluntary Organisations

The ten year Development Plan provides, *inter alia*, for the provision of a purpose built Junior Training Centre, and an Adult Day Training Centre/Sheltered Workshop and at a later date a hostel for mentally subnormal adults in the Braintree area. The Braintree and District Society for Mentally Handicapped Children is co-operating in these projects and as soon as a suitable site can be found, the Society has offered to make a substantial contribution towards the cost of providing the hostel on condition that local residents shall have an option on the number of beds available. At the end of the year negotiations were entered into for the purchase of a suitable site and it is hoped it will be possible to finalise these shortly.

Hospital Admissions

The Mental Welfare Officers continued to assist in arranging admissions to hospitals and during the year were concerned with 725 informal admissions. They were also involved in the following admissions carried out under the compulsory procedures laid down in the Mental Health Act :—

	Applications made by Mental Welfare Officers	*Applications made by relatives with the assistance of Mental Welfare Officers*
Section 25	193	68
Section 26	121	39
Section 29	539	130

SECTION VIII—REPORT OF THE CHIEF DENTAL OFFICER FOR 1963

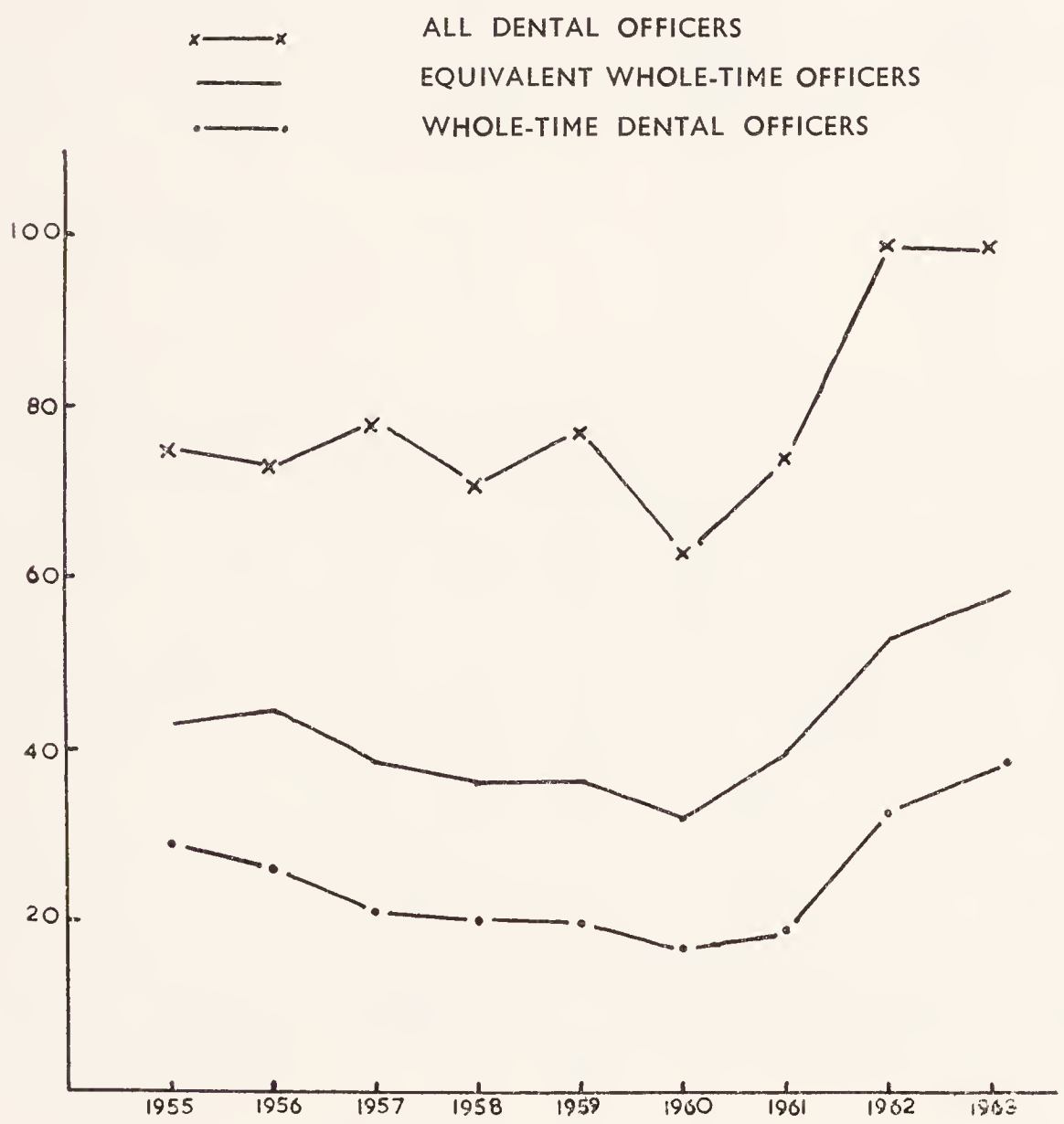
Staffing

The present establishment for all the dental services of the County Council is one Chief Dental Officer, 14 Area Dental Officers and 99 Dental Officers. Dagenham, Harlow and South-East Essex Health Areas are still without Area Dental Officer cover. The average age of the staff is 48 years.

On the 31st December, 1963, the number of Dental Officers in post for all the County service was equivalent to 58·7. The Area Dental Officer for Colchester retains his sessional appointment with Colchester Hospital; this co-operation is most valuable to all concerned.

The graph shows the progress of recruitment during the last several years and the maintained increase in the number of whole-time officers is to be noted.

DENTAL OFFICERS EMPLOYED
ON 31ST DECEMBER OF YEARS 1955 TO 1963



The Priority Classes

The statutory obligation imposed on the Local Authority to afford comprehensive facilities for the inspection and treatment of expectant and nursing mothers and pre-school children has been fulfilled as previously by the staff which undertakes the work for the school dental service. At the time of writing, this staff is also providing a service for mental health patients in the residential hostels. In some uninformed quarters doubts have been raised as to the need for a Local Authority dental service, but it is difficult to visualise any comprehensive alternative to it with its unique position regarding school-children, teachers, health visitors and midwives. The ultimate aim of the service is prevention and the Local Authority service is perhaps the only avenue to attempt to realise fully this aim. The opportunity to reach "captive audiences" is unique.

The following table shows the demands on the service during 1963 compared with some previous years, and the small percentage of mothers seen should be particularly noted.

Table I

Year	*Notified Births*	*Mothers examined*	*Percentage examined*
1957	27,019	1,832	6.78
1958	28,354	1,557	5.49
1959	28,928	1,487	5.14
1960	30,412	1,359	4.47
1961	30,946	984	3.18
1962	31,948	832	2.60
1963	33,470	1,029	3.07

Full details of the treatment undertaken for the priority classes are given on page 50 of this report. I mentioned in my last report that more active measures would be considered to reach this important class of patient should the staffing situation be maintained and, at the time of writing, regular visits are being paid to clinics for expectant mothers in Harlow. Talks and film shows are given on the importance of the care of the teeth and the reception to this new work has been highly satisfactory, with first-class co-operation from the health visiting and midwifery staffs. Harlow has been chosen for the start for this work, as it will supplement the extensive dental health education campaign already being done in the schools there. Table II below shows the amount of work undertaken for each 100 patients in the priority classes. The importance attached to the conservation programme for these patients continues.

Table II

Year	*Expectant and Nursing Mothers*				*Pre-School Children*	
	Scalings	*Fillings*	*Extractions*	*Dentures*	*Fillings*	*Extractions*
1950	30	73	174	23	66	110
1958	39	139	143	23	110	94
1959	44	135	132	20	116	82
1960	43	138	150	18	123	72
1961	65	168	177	24	148	84
1962	57	192	136	22	155	69
1963	84	231	116	17	174	62

Premises and Equipment

A new clinic was opened at Dovercourt during the year. It is an attractive modern building with the dental rooms occupying most of the first floor. The accommodation comprises a surgery, recovery-room, waiting-room, small work-room, and a dark-room, and the equipment covers the needs of all general dental practice. There is now only one set of hired premises in the County—at Stansted—as however this accommodation is not up to the accepted standard for this authority, a new clinic to conform to the required standard is proposed.

Close liaison has been established with the County Architect's Department for the layout and services of the dental rooms in all our new and adapted premises, and this is to everyone's benefit.

Dental Ancillary Workers

The Dentists Act 1957, Part IV, provides for a trial by the General Dental Council (two years' training and three years in the field) of a further class of ancillary dental worker known as dental auxiliary workers. These workers undertake, supervised by a registered dentist, the extraction and filling of milk teeth and the insertion of simple fillings in permanent teeth. The 5-year experiment will be completed in 1965, when the usefulness to the community of these workers will be assessed. At the end of the year the Authority had one auxiliary in its employ at Leytonstone, who works under the supervision of the Area Dental Officer for the Leyton Health Area.

Another class of ancillary worker already exists—the Dental Hygienist—and persons in this category undertake the scaling and polishing of teeth and the application of certain medicaments to the teeth and gums. Both classes of ancillary workers are trained to undertake health education in the surgery, in clinics and in schools, and their work in this respect is most valuable. Both classes hold the Ministry of Health certificate of proficiency in their particular field of activity.

The Dental Surgeon also receives help from dental technicians who make dentures, crowns and orthodontic appliances to his specification. He also has a dental surgery assistant who carries out many useful tasks in the surgery ranging from preparing patients for treatment and caring for them after general anaesthetics to making appointments and processing X-ray films.

Orthodontic Treatment

The Consultant on the staff of the North-East Metropolitan Regional Hospital Board continues to be based at Whipps Cross Hospital and makes weekly visits to hospitals at Colchester, Chelmsford and Southend. The consultant cover at the end of the year under review was adequate for the needs of the administrative county area, but more staff is probably needed to undertake the complex cases which arise from time to time. It should be recalled that the consultant also sees patients referred by general dental practitioners and that his duties are not confined to children attending the County Council clinics. The north-west of the county looks to the East Anglian Regional Hospital Board for its orthodontic cover. Walthamstow, for many years, has had regular visits from a dental surgeon who specialises in this class of work. Throughout the Administrative County 575 cases were completed during the year compared with 629 in 1962. One of the several reasons for irregularities of the permanent teeth is the premature extraction of milk teeth, due to advanced decay and as more attention is paid to the conservation of these milk teeth, the number of orthodontic cases arising from this cause will tend to fall. As to the future, a preliminary meeting at officer level between the Board and the Local Authority has already taken place when the orthodontic staffing situation in the region was reviewed. It was also suggested that the setting-up of a Regional Orthodontic Committee be considered. Close liaison with the Board will need to be continued indefinitely.

Post-Graduate Study

The rapid advance in the practice of dental surgery which has occurred during these last two decades necessitates post-graduate instruction for the members of the professional staff and the County Council agreed to send a number of dental officers to courses of instruction at the General Dental Council, the British Dental Association and Kodak Limited. A number of dental surgery assistants also attended a course at Kodak's on the hazards of X-ray work and the best methods of processing X-ray films.

General Anaesthetics

The clinical practice of general anaesthesia becomes more involved as time goes on and Assistant County Medical Officers attend courses of instruction at the Eastman Dental Hospital, as required. Most of the patients attending our clinics are young, ambulant, and not pre-medicated and the

operations are performed in a dental chair. Under the circumstances, the successful practice of this work is an art needing great skill and patience. In addition to the more usual emergencies sometimes met with in this work, permanent ill effects may be caused more particularly involving damage to the brain in very young children.

Dr. V. Goldman, Head of the Anaesthetic Department of the Eastman Dental Hospital kindly gave his advice about instruments and drugs needed in emergencies, and the Health Areas have been notified accordingly. There is a Regional Hospital Board cover for dental cases in the Administrative Area, and cases of special risk should be referred to hospital for treatment and post-operative care. The hazards to patients should be kept to the absolute minimum at all times. The general anaesthetic machines are serviced regularly and each one has an emergency oxygen circuit.

Dental Appliances

The Dental Laboratories at Barking and Walthamstow provide most of the appliances needed for the dental services. During the year, 781 dentures were either provided new, relined or repaired and in addition 825 orthodontic appliances, 131 crowns and inlays and 2 bridges were made. Some work was also let out to private mechanics to the profession.

Dental Research

Medicated Dentifrices

The Research Team from the London Hospital Dental School continued to visit some of the Girls' Grammar Schools with a mobile unit in their investigation into the merits of certain medicated dentifrices.

Local Analgesic Agent

Permission was given in 1959 for the staff to assist the Eastman Dental Hospital in assessing the value of a new local analgesic agent. Some of the dental officers were asked to use this solution in a " double blind " experiment. In July 1963 the results of the trial were published in the " British Dental Journal " under the title of " A Clinical Trial of a new Local Analgesic Agent " by Victor Goldman, F.F.A., and William Gray, F.D.S. The summary of the article states :—

> " A large scale clinical trial of a new local analgesic, L.67 (Citanest), was undertaken with the aim of obtaining an overall picture of the value of this new agent in dentistry. A form was devised to obtain all the relevant information about this new drug, as well as local analgesia in general. This form was completed for each patient.
>
> Two solutions of L.67 were compared with lignocaine in more than 12,000 patients.

In this trial a 3 per cent. solution of L.67 with adrenalin 1 in 3,000,000 was found to be comparable with 2 per cent. lignocaine with 1 in 80,000 adrenalin and at a period of two hours after injection the soft tissues were free from analgesia in a higher proportion of cases.

The incidence of initial pain was lower, and immediate side effects were less frequent. The speed of onset of analgesia was found to be similar with both L.67 and lignocaine.

In mandibular block analgesia there was no appreciable difference in duration between the solutions."

Dental Health Education

The five-year project in Harlow has now entered its penultimate year and 10 full-scale Dental Health Weeks have been undertaken in schools and several follow-up visits have been made. In addition to this programme, nearly 200 film shows have been given.

It is thought most valuable to have contacts with the Teacher Training Colleges regarding this work and some preliminary work has been done relating to the Saffron Walden Teacher Training College. In fact, at the time of writing, a successful week's visit has been carried out there, and representatives of the St. Osyth and Brentwood Teacher Training Colleges were invited and attended. The programme was enthusiastically received both by staff and pupils and it is considered that the effort was really worthwhile.

A letter was sent out in December over the signatures of the Chief Education Officer and the Principal School Medical Officer to all Head Teachers pointing out the widespread concern about the condition of children's teeth. The letter pointed out the dangers of soft sugary foods which cling to the teeth, that these are broken down to acid and this is followed up by dissolution of tooth substance. The connection between the selling of these foods in school tuck shops and the dental decay rate was stated and four simple rules for dental health were given :—

(1) Eat nourishing meals and nothing sweet and sticky in between;

(2) Finish meals with raw fruit or vegetables or rinse the mouth with water;

(3) Brush teeth and gums regularly after breakfast and always last thing at night;

(4) Have regular dental inspection.

It is wrong that practices opposed to health teaching should be carried out in schools.

Artificial Fluoridation of Water Supplies to Reduce the Dental Decay Rate

The controversy on this subject continues unabated and it may be opportune to refer to the facts in some detail. I think it is true without doubt that nothing but good can come from adding a fluoride to water to enrich its fluoride content up to 1 part per million (1 p.p.m.) The reverse applies too and water supplies with a fluoride content much in excess of 1 p.p.m. could well be treated to reduce the amount and so eliminate the risk of objectionable mottling of the teeth. The terms " mottling " or " dental fluorosis " are used to denote spots or flecks of opacity in the enamel of the teeth. Some of these opacities are idiopathic; that is, they are formed during development but have no connection with the fluoride content of the water, but some of these opacities occur as a direct result of the fluoride content in water. In severe cases some of the opacities are stained and cosmetically objectionable. The question of fluoride in water assumes a particular interest in Essex because there are low fluoride areas in the county such as Saffron Walden and high fluoride areas like West Mersea, Burnham-on-Crouch, and Colchester. Indeed West Mersea has the highest fluoride content in the country, namely 5·8 p.p.m. It is interesting then to compare the incidence of dental decay in different parts of our own county and indeed the results of investigation by dental surgeons from outside the County Council Authority.

In 1956 Miss Jean R. Forrest, Dental Officer at the Ministry of Health, published in the " British Dental Journal " the result of an investigation she undertook in 1954 and the following statistical tables are given in her report :—

Table I—The relation between the fluoride content of water and caries experienced among children aged 12-14 years

Area	*Fluoride content of water p.p.m.*	*Number of children examined*	*Average No. of children D.M.F.* teeth per child*	*Children caries free per cent.*
West Mersea	5.8	51	2.8	24
Burnham-on-Crouch	3.5	62	1.4	50
Harwich	2.0	92	1.5	35
Slough	0.9	119	2.6	30
Saffron Walden and District, Stoneleigh and Malden West, Surrey	0.1	145	6.6	4
	0.1–0.2	114	6.1	8

* Decayed, Missing or Filled Teeth

Table II—Caries experienced in first permanent molars
Children aged 12-14 years

Area	*Fluoride content of water p.p.m.*	*No. of children examined*	*First permanent molars*			
				Defective		
			Sound per cent.	*Decayed per cent.*	*Filled per cent.*	*Missing per cent.*
West Mersea ...	5.8	51	61	17	20	2
Burnham-on-Crouch	3.5	62	76	6	17	1
Harwich	2.0	92	68	17	14	1
Slough	0.9	119	59	9	27	5
Saffron Walden and District, Essex ...	0.1	145	22	23	43	12
Stoneleigh and Malden West, Surrey	0.1	114	22	23	44	11

It is clear from Table I that there is a markedly low incidence of caries in the high fluoride areas. This is apparent also in Table II which gives a comparison of caries experienced in the first permanent molars which are generally considered the most vulnerable teeth in childhood. In the high fluoride areas between 59 per cent. to 76 per cent. of these teeth were entirely sound, while in the low fluoride areas only 22 per cent. were free from decay.

It must be understood that in areas where the fluoride content is more than about 1·5 p.p.m. there is a danger of objectionable mottling with no further great reduction in dental decay. In Figure I below it is shown that the optimum content with the minimum of mottling is between 1 and 1·5 p.p.m. The community index of mottling shown on the right vertical axis of Figure I is the indication of the severity of mottling, e.g. 0·5 on the scale shows 'questionable'; 1·0 on the scale shows 'very mild'; 2·0 'mild'; 3·0 'moderate'; and 4·0 'moderately severe'. 'Questionable' and 'very mild' mottling are not noticeable except to a trained observer.

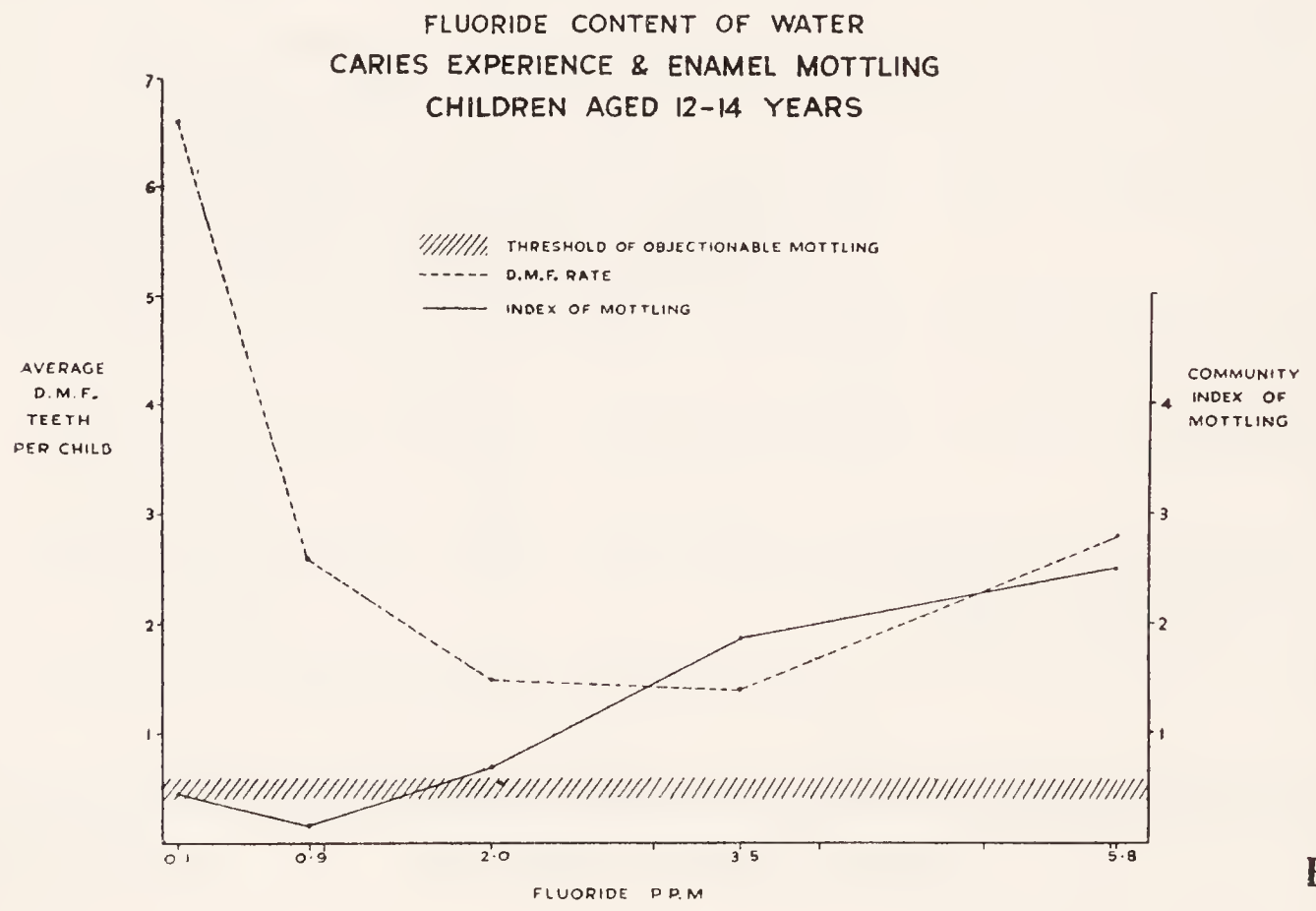


Figure I

Another interesting study in the County is one undertaken by P. M. C. James, M.D.S., D.P.D., Director of the Department of Children's Dentistry at the Royal Dental Hospital, London, and published in the "British Dental Journal" in 1961 under the title of "Dental Caries Prevalence in High and Low Fluoride Areas of East Anglia." It involved Essex children and also children from Norfolk. Mr. James inspected children in a low fluoride area in Norfolk, children in Chelmsford with a non-continuous supply of fluoride water and children in Colchester, some of whom had a non-continuous fluoride water supply and some a continuous supply of fluoride water. Mr. James states that the intermittent fluoride content of the Chelmsford water had been of some benefit to the teeth. More striking, however, is the representation pictorially of the D.M.F. values of twelve-year-old children from Norfolk (low fluoride) and Colchester (non-continuous fluoride) and Colchester (continuous fluoride) shown below :—

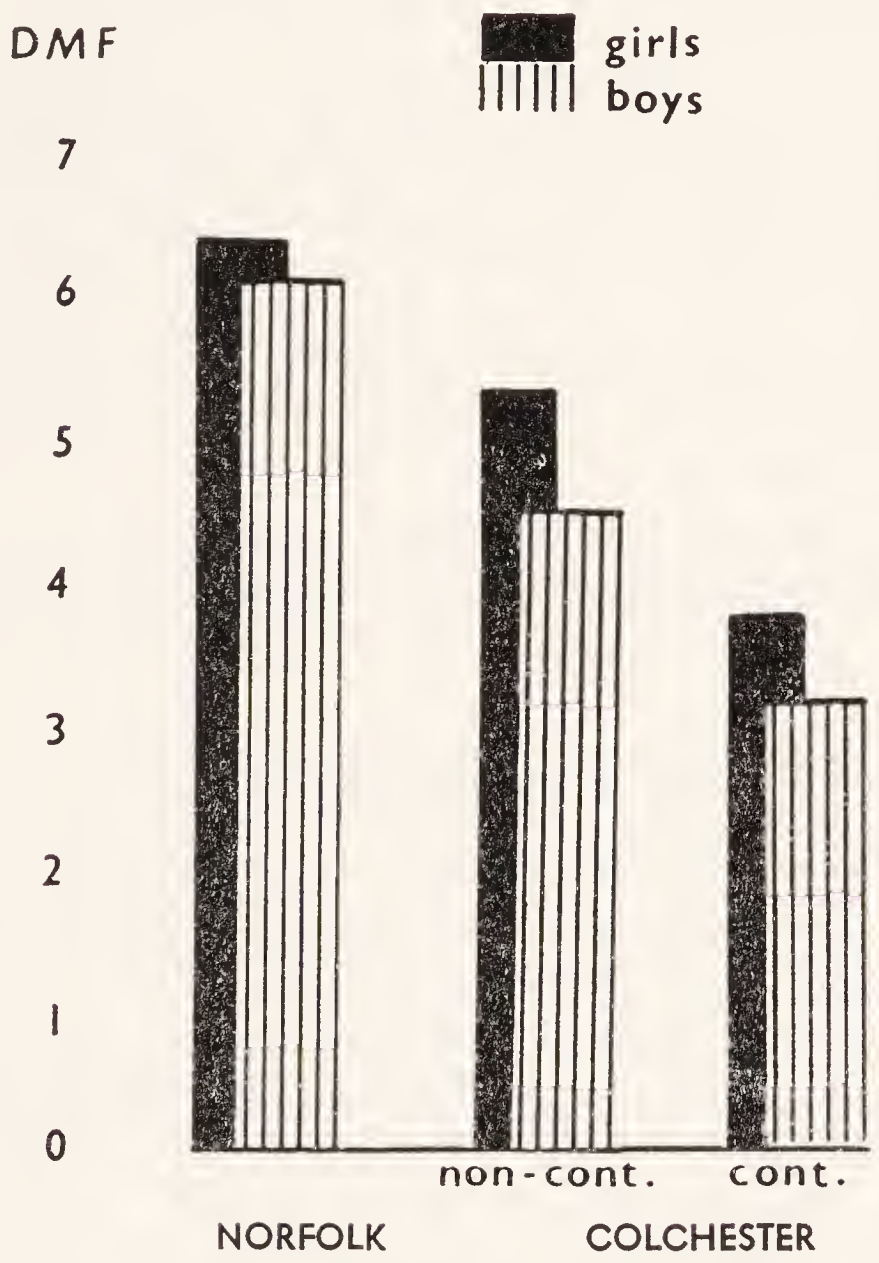


Figure II

The most telling report on this question, however, was published jointly in 1962 by the Ministry of Health, the Scottish Office and the Ministry of Housing and Local Government in the Public Health and Medical Subjects

report No. 105 under the title of " The Conduct of the Fluoridation Studies in the United Kingdom and the Results Achieved After Five Years." In this official Report three tables show the conditions of the dentition of the children in the study areas in Watford, Kilmarnock and Anglesey (part) and those of the control areas in Sutton, Ayr and Anglesey (part) and the three tables are reproduced below in full.

Changes in the Three Study and Three Control Areas Combined

(a) Average Number of Carious Teeth per Child

	Study Areas			*Control Areas*			
	Average No. of carious teeth per child (dmf)		*Percentage Reduction*	*Average No. of carious teeth per child (dmf)*		*Percentage Reduction*	*Adjusted‡ Percentage reduction in study areas*
Children Aged:	*Baseline*	1961		*Baseline*	1961		
3 years*	3.80	1.29	66	3.53	3.32	6	64
4 years*	5.39	2.31	57	5.18	4.83	7	54
5 years†	5.81	2.91	50	5.66	5.39	5	47
6 years†	6.49	4.81	26	6.32	6.22	2	24
7 years†	7.06	6.05	14	7.08	6.89	3	11

* Full dentition.

† Deciduous canines and molars only.

‡ That is, after adjustment for the change in the control areas.

(b) Percentage of Children free from Caries

	Study Areas			*Control Areas*			
	Percentage of children free from Caries		*Percentage Increase*	*Percentage of children free from Caries*		*Percentage Increase*	*Adjusted ‡ Percentage increase in study areas*
Children Aged:	*Baseline*	1961		*Baseline*	1961		
3 years*	32.5	60.5	86	37.9	39.3	4	79
4 years*	22.2	42.0	89	20.6	26.9	31	44
5 years†	8.1	30.9	281	8.4	12.1	44	165
6 years†	6.2	14.0	126	5.8	8.4	45	56
7 years†	4.0	7.7	93	4.8	5.4	26	53

* Full dentition.

† Deciduous canines and molars only.

‡ That is, after adjustment for the change in the control areas.

(c) Percentage of Children with 10 or more Carious Teeth

Children Aged:	Study Areas			Control Areas			Adjusted ‡ Percentage reduction in study areas
	Percentage of Children with 10 or more carious teeth (dmf)		Percentage Reduction	Percentage of Children with 10 or more carious teeth (dmf)		Percentage Reduction	
	Baseline	1961		Baseline	1961		
3 years*	14.9	1.7	89	14.2	13.2	7	88
4 years*	21.4	3.6	83	19.0	19.0	Nil	83
5 years†	14.6	1.6	89	13.6	11.5	15	87
6 years†	17.4	8.8	49	16.4	15.2	7	45
7 years†	21.4	15.4	28	22.5	22.1	2	27

* Full dentition.

† Deciduous canines and molars only.

‡ That is, after adjustment for the change in the control areas.

The striking difference in the dental condition of the children of the study areas compared with that of the children in the control areas is plainly seen in the extreme right hand column of each table and is self-explanatory.

The safety of fluoridation of water supplies has also been criticised but in this respect I quote the summary and conclusions given in the Report and this reads :—

> "No harmful effects from the addition of one part per million of fluoride to drinking water have been demonstrated in any of the extensive medical evidence collected and reviewed by the Research Committee.
>
> The Research Committee is of the same opinion, therefore, as the World Health Organisation's Expert Committee on Water Fluoridation, which, in 1958, reported 'The most convincing evidence of the safety of water fluoridation comes from the numerous population groups (3 million in the U.S.A., 0·5 million in England) who have drunk naturally fluoridated water containing 1 p.p.m. or more during their lifetime. In these groups water drinking has been, of course, uncontrolled and there have been well and ill babies, as well as healthy young adults and frail elderly people. Medical practitioners and specialists in these areas have never detected or defined a systematic aberration in health of any kind related to the fluoride consumed'."

After detailing the more important evidence, the World Health Organisation's Expert Committee concludes "All these findings fit together in a consonant whole that constitutes a great guarantee of safety—a body of evidence without precedent in public health procedures."

The fluoridation picture in America may be seen by studying the contents of the journal of the American Waterworks Association which periodically publishes what it calls " the status of fluoridation of the U.S.A. and Canada." The latest of these surveys (May 1963) shows that up to the end of 1961, 1,329 water supply systems, serving a population of 43,700,000 had fluoridation schemes working and this with 7,300,000 people who use naturally fluoridated water gives a grand total of some 51,000,000 people consuming fluoridated water. It is of interest to note that the eleven largest cities (except Los Angeles) in the U.S.A. have adopted a fluoridation scheme. The cities are New York (expected to start in September 1964), Chicago, Philadelphia, Detroit, Baltimore, Cleveland, Washington (D.C.), St. Louis, San Francisco and Milwaukee. The June 1963 issue of the journal of the American Waterworks Association repeats the Association's policy statement regarding fluoridation which was first enunciated in 1949 and re-affirmed without change as recently as June 1962, and this reads :—

> " In communities where a strong public demand has developed and the procedure has the full approval of the local medical and dental societies, the local and state health authorities, and others responsible for the communal health, water departments or companies may properly participate in a programme of fluoridation of public water supplies."

The process of fluoridation is referred to and recommended " Not only as a proven scientific procedure, but also as an accepted adjunct of water treatment processes.

As a matter of economics, the following information from experiences in Winnipeg and Chicago are of interest :

According to the Winnipeg (Canada) Health Department, 7-year-old children in the city had 60 per cent. less tooth decay in 1963 than they had in 1958 before fluoridation started. This they say, represents a saving of at least 16,000 dollars which would otherwise be needed for treatment expenses. In Chicago the Commissioner for Health has stated that since fluoridation was started in 1956 tooth decay in children has been decreasing by about 7 per cent. each year. This he said represented a saving in dentists' bills of almost 250,000 dollars.

It is to be hoped that the public will become so educated as to the benefits of fluoridation and its consequent better dental health that they will demand the country-wide fluoridation of water supplies.

The late Sir William Osler, probably the greatest physician of his generation, had this to say many years ago :—

> " You have got to preach it early and late. It is the gospel of the cleanliness of the mouth, cleanliness of the teeth and cleanliness of the throat. There is not a single thing more important to the public in the whole range of hygiene than that. It is a matter of real national importance."

This, in the language of our day, is what we attempt to pass on to the rising generation.

J. BYROM.

APPENDIX

Outbreak of Typhoid Fever Connected with Corned Beef

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M. H. ROBERTSON,‡ M.B., CH.B., M.C.PATH.; H. L. HUGHES,§ D.P.A., M.R.S.H.

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Typhoid fever has never been a major killing disease in the history of this country and deaths from it have always been greatly exceeded by those from such common ailments as measles or whooping-cough. Epidemics of typhoid are now rare, but between 1951 and 1962 an average of 134 cases a year were reported in England and Wales.

The following is an account of a sharp localized outbreak of typhoid fever in Harlow, Essex.

The Outbreak

The infection came to light on 1st June, 1963, when, as a result of laboratory tests, typhoid fever was diagnosed in four patients admitted to St. Margaret's Hospital, Epping, because of P.U.O. over the preceding two weeks. All general practitioners in the town were immediately alerted and asked to treat with suspicion every unexplained pyrexia. This resulted in more cases being suspected and confirmed during the ensuing days. In all, 26 persons were affected, but three of them had no clinical symptoms. Twenty-one came from eight households with two or more cases in each, and five were single cases. Their age and sex distribution is shown in Table I.

It must be pointed out that Harlow is a town with a predominantly young population, so that the high proportion of cases in the lower age groups is not significant.

TABLE I

Age:	–5	–10	–15	–20	–25	–30	–35	–40	–45	–50	*Total*
Male ...	3	—	1	1	1	1	—	3	2	—	12
Female	1	2	2	1	2	1	2	2	—	1	14
Total ...	4	2	3	2	3	2	2	5	2	1	26

The dates of onset (Table II) could be established with a certain degree of accuracy in most of the 23 clinical cases. However, in some the early symptoms were so mild and vague that the patients could not be certain of the dates, which are therefore of necessity only approximate.

* Medical Officer of Health, Harlow Urban District Council.
† Consultant Physician in Infectious Diseases, St. Ann's Hospital, Tottenham, and Rush Green Hospital, Romford.
‡ Consultant Pathologist, St. Margaret's Hospital, Epping.
§ Chief Public Health Inspector, Harlow Urban District Council.

TABLE II

Date of onset	May										June	
	15	16	17	18	19	21	22	23	25	26	1	3
No. of cases	5	2	2	4	1	2	1	2	1	1	1	1

The two cases which occurred in June could be either primary with a somewhat long incubation period or secondary. They were a man and his daughter in whose family two other children were confirmed cases of typhoid with onset on 23rd and 26th May.

Laboratory Diagnosis

All strains of *Salmonella typhi* isolated during the outbreak were sent to the Enteric Reference Laboratory for confirmation and bacteriophage-typing. They belonged to Vi-phage type A, which is of world-wide distribution and is the second commonest type encountered in the world as a whole (Felix, 1955).

The Harlow strain was sensitive to the following chemotherapeutic and antibiotic substances by the dry disk method: sulphonamide, furazolidone, streptomycin, chloramphenicol, neomycin, colimycin, framycetin, ampicillin, polymyxin, and paromomycin, and was poorly sensitive to tetracycline. In addition, tube sensitivity tests were carried out using serial dilutions of chloramphenicol pure powder and three of the newer antibiotics in broth. The following bacteriostatic levels were determined: chloramphenicol 2μg./ml., colimycin methyl sulphonate 2 μg./ml., kannamycin 3·5 μg./ml., ampicillin 2·5 μg./ml.

Preliminary diagnoses of suspected cases were carried out in St. Margaret's Hospital, Epping, and screening of contacts in that hospital and the Public Health Laboratory, Chelmsford. Criteria accepted for bacteriological diagnosis were the isolation of *Salm. typhi* from the blood or stool or a high or rising titre of antibody to *Salm. typhi* in the patient's serum. Agglutination tests were set up against the following three antigens: *Salm. typhi* H, *Salm. typhi* O, Vi, and the following titres accepted as positive: *Salm. typhi* O 1:125; *Salm. typhi* H 1:125, Vi 1:10. A raised H agglutination titre is not generally accepted as proof of infection in people who have been inoculated with T.A.B. vaccine, owing to the occurrence of anamnestic rises, and while a raised O agglutination titre in such cases is accepted it cannot be regarded as diagnostic of infection with *Salm. typhi*, as the somatic antigens of *Salm. typhi* are common to all members of Kauffmann's salmonella group D. Vi antigen also occurs in *Salm. paratyphi* C among others. In this series of cases all three antibody levels were determined, but no case was regarded as positive on serological grounds alone unless the titres of H or Vi antibody reached the levels stated and the O titre was at least 1:125.

In all, 26 cases fulfilled these conditions : 23 were clinical cases and three had no symptoms but were excreting the organism. All cases, with the exception of four who fell ill outside Harlow and were treated in different hospitals, were admitted to St. Ann's Hospital, Tottenham (13 cases) or Rush Green Hospital, Romford (nine cases).

Of the 22 cases investigated and treated by us only three fulfilled all three criteria, eight fulfilled two only, and 11 fulfilled only one, although one symptomless excreter did not have blood cultures taken and one case had no Widal test carried out. The 11 cases fulfilling only one criterion consisted of five with positive stool cultures, four with positive Widal reactions, and two with positive blood cultures. The eight cases fulfilling two criteria consisted of three with positive stool cultures and Widal reactions, two where the organism was isolated from the blood and stool, two with a positive blood culture and positive or rising titre Widal reaction, and one with a positive stool culture and a rising titre of antibodies.

All samples from all but one patient and a few blood cultures from another case were taken after the latter part of the second week of illness. It is advisable, therefore, that in this country at least, when screening close contacts and suspected clinical cases of typhoid fever, blood and stool cultures and Widal examination should be carried out regardless of the stage of the illness. It is noteworthy that nine of these 22 cases had positive blood cultures; indeed, in four of them the organism was isolated only from the blood. Of these nine positive cultures, only one was taken during the first week of illness, one during the second, and five during the third week. Two others were from a symptomless case and a mild case, and were probably taken during the third week. This observation confirms those of Huckstep and others quoted by him (Huckstep, 1962). Blood culture should be performed even if the subject is apparently asymptomatic, as is illustrated by two cases mentioned later.

Isolation of the organism from the blood is, of course, diagnostic, but the Widal reaction requires care in its interpretation as discussed above. The following instance could easily have set the epidemiological investigation of this outbreak on a completely false scent.

A large number of food-handlers in the shopping area, described below, had their Widal tests carried out in addition to faecal examination. One man giving a history of gastro-intestinal illness in Spain was found to have the following agglutinins in his serum: *Salm. typhi* O 1 : 512; *Salm. typhi* H nil, Vi nil. He was employed in a food shop close to the butcher's shop finally implicated. His serum was promptly tested against *Salm. enteritidis* H antigen, but no antibodies were detected. *Salm. wangata* (O—9, 12; H—z4, z23) was grown from his faeces, thus explaining his serological findings.

Nine of the 22 cases did not produce a positive Widal reaction according to the criteria stated above. Of these, however, three had a rising titre and

two others were young children who, having had no T.A.B. inoculation, showed a raised H agglutinin titre. Only one case seemed to show no antibody response at all except to the Vi antigen, and that but weakly. All these patients were treated with antibiotics, five received ampicillin, three chloramphenicol, and one both these drugs. Effective treatment by destroying the organism and removing the antigenic stimulus may reduce the chances of observing a rising titre of antibodies in the course of the illness.

A white-cell count of over 10,000 cells/c.mm. virtually excludes typhoid fever, and there was a normal or low count in every case in the present series.

Clinical Features

The main clinical and laboratory features of the 22 patients admitted to St. Ann's or Rush Green Hospitals were in all respects common to what we should expect in typhoid, emphasizing the importance of fever, lethargy and mental apathy, the frequency of cough and sore throat, and the fact that diarrhoea (which occurred in only 10 patients) is by no means an essential symptom of enteric fever. Respiratory symptoms were significant enough in the early stages in 10 patients to lead practitioners to diagnose tonsillitis or bronchitis. No fewer than 15 patients showed rose spots on admission to the infectious disease units. Clinical evidence of myocarditis appeared in only four patients, but a further five showed electrocardiographic changes during the febrile stage. All E.C.G.s returned to normal during convalescence.

Of the nine cases with positive blood cultures the following two denied any symptoms.

A woman of 39, the wife of a known case. Investigation showed a rising Widal titre, and after admission to hospital she was found to be running a remittent fever up to 102° F. (38·9° C.), yet she denied all symptoms. Fever persisted for five days, falling to normal two days after starting treatment with ampicillin.

Her daughter, aged 11 years, had no symptoms, no fever, and no abnormal physical signs. Typhoid bacilli were recovered from stools as well as blood culture.

In 16 patients specific treatment consisted of one week's chloramphenicol in a dosage of 75 mg./kg./day followed by a second week in a dosage of 50 mg./kg./day. The remaining six patients were given ampicillin (3g./day for an adult) for two weeks. Ampicillin was also used for the only patient who relapsed (with a cholecystitis) and for the only patient who produced a positive stool culture during his clearance tests. Six patients with marked toxaemia received prednisolone for from five to eight days. Four of these showed dramatic improvement within 36 hours, but the other two were slower to respond.

All 22 patients recovered without sequelae. Vi antibodies had disappeared from the blood of all cases by three months after discharge from hospital.

The remaining four patients contracted the infection in Harlow but were diagnosed and treated elsewhere. Two were a young couple normally resident in the town; when both fell ill they went to stay with friends in Hertfordshire in order to be nursed there. Their address could not be found for some time, but when they were finally traced and examined on the 31st day of illness *Salm. typhi* phage type A was isolated from the stools of the woman and she also had a suspicious Widal reaction. Her husband, who was less severely ill, had had T.A.B. inoculation in the Forces two years earlier. His stools were negative and the Widal test showed raised titres against *Salm. typhi* H, *Salm. paratyphi* AH and BH, and against Vi antigens.

Another patient, resident in Croydon, had consumed contaminated food in Harlow. Thirteen days later she complained of sickness, headache, and general malaise, but recovered after three days and returned to work. *Salm. typhi* was obtained from her stools 41 days after infection and she was treated as a convalescent carrier.

Finally, a man from Harlow, a chronic schizophrenic, was found to have typhoid fever while in a mental hospital in Colchester. Both his wife and son were confirmed cases, and at the time when they fell ill he too complained of headache, general malaise, and constipation. A week later he was admitted to the mental hospital, where he developed diarrhoea and lassitude. On the 25th day of disease *Salm. typhi* was grown from his stools and his Widal reaction showed high titres against *Salm. typhi* H, O, and Vi antigens.

Epidemiological Investigations

Preliminary investigations were carried out on Whit Sunday and Monday, 2nd and 3rd June. All patients in hospital and their families at home were visited and carefully interrogated. Rectal swabs were taken of everbody who had had more than casual contact with the cases.

From the beginning it was obvious that we were faced with an explosive outbreak, of as yet unknown extent. Water and milk were therefore immediately thought of as possible vehicles of infection, but both were soon ruled out. The whole population of the town is supplied by only two dairies, each covering a wide distribution area stretching beyond Harlow and even beyond the boundaries of the county. Contaminated milk would therefore have caused a very large number of cases throughout the town, while all the cases known at the time were localized within a limited area. Apart from these considerations, a check of the temperature records showed no breakdown in the pasteurization process of the milk. As to water, this is distributed by one company only through relatively new mains, so that any pollution would have affected the whole of Harlow. Routine samples taken in May by the Public Health Department and by the company were negative, and there was no record of any damage to water mains or sewers and no interruption of the water supply for any reason. Automatic chlorination records were checked and found satisfactory. Nevertheless, to exclude the possibility of localized damage to

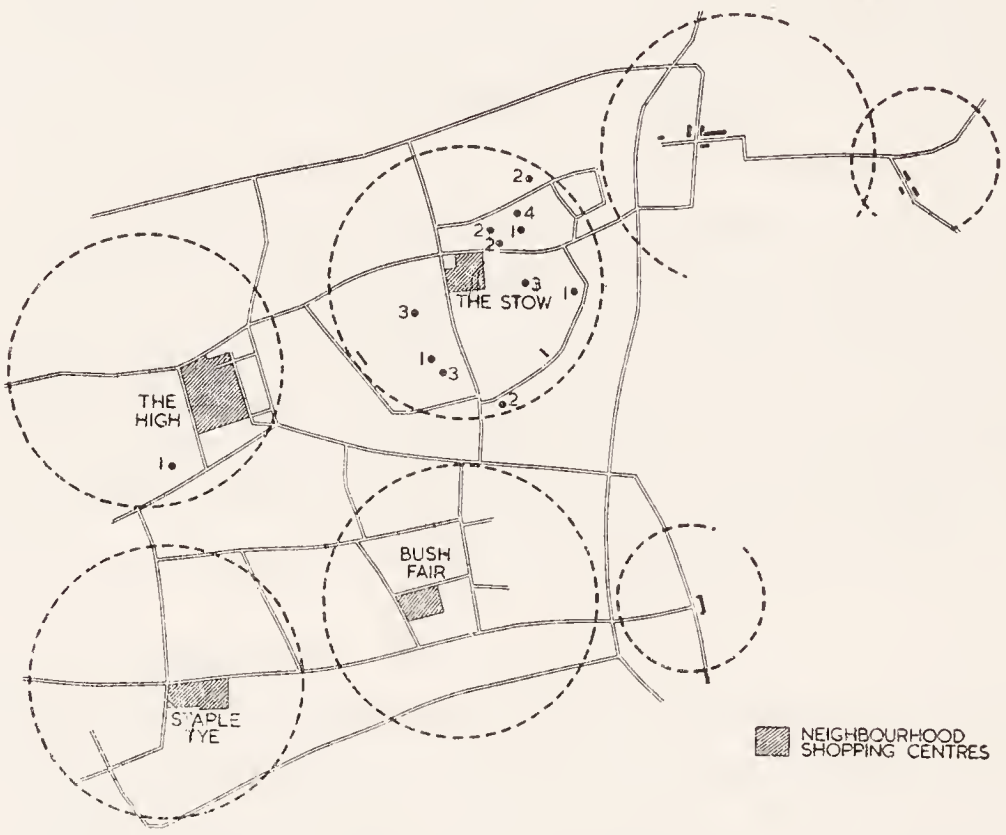
the mains, 40 samples of water were examined bacteriologically in the course of the next two days and pressure was tested at 161 points of the distribution system. All these tests were negative, and it was therefore concluded that food must be the source of infection. As soon as the shops reopened after Whitsun, investigations were started in this direction. By that time seven confirmed cases were in hospital, and others, later diagnosed as typhoid fever, were being investigated.

The new town of Harlow has been built on the principle of self-contained neighbourhood areas, each with its own shopping centre. All the cases of typhoid fever except two occurred around the Stow shopping centre (see Map), and it was assumed that one of the 15 food shops there was responsible for the outbreak. Inquiries were made into the medical histories of persons employed in these shops and of those who had left within the preceding two months. All of them, as well as itinerant vendors, roundsmen, and delivery boys, were required to submit to rectal swabbing at a near-by clinic. At the same time, sewer swabs were placed in manholes serving the shopping centre. The first batch of these swabs were examined after 36 hours and subsequent ones after remaining *in situ* 7, 25, 30 and 35 days. Foodstuffs likely to carry salmonellae, such as fresh and synthetic cream, desiccated coconut, and egg products, were taken from the shops in The Stow and submitted to the public health laboratory for examination. With the exception of a sample of imported egg albumen, which yielded *Salm. infantis,* no pathogenic organisms were grown from them.

Despite the fact that the infected food must have been consumed early in May and almost a month had elapsed since, repeated and searching interrogations of the patients and their families proved most useful and revealing. Soon after the start of the investigation it became apparent that most of the affected households were customers of the same butcher's shop, and later it was ascertained that they all had eaten corned beef. However, because there are only three butchers in that shopping centre, it was necessary to be quite sure that it was not merely a coincidence that the victims had bought their corned beef in that particular shop. Therefore, while this clue was being pursued, the search for a carrier continued and all food-handlers who had already been swabbed were now submitted to Widal tests and faecal specimens were taken for culture. Altogether during the epidemiological investigation of the outbreak 403 rectal swabs, 361 faecal specimens, 167 blood samples and 16 specimens of urine were examined. Included in these numbers are contacts of clinical cases who, as a matter of policy, had at least one Widal test, one rectal swab, and three faecal specimens each. With the exception of four cases involving close contacts of patients, all these examinations were negative. Case histories of the patients provided overwhelming circumstantial evidence to implicate the butcher's shop and the corned beef.

Twenty-one out of the 26 persons affected were quite sure that they had eaten corned beef purchased sliced from the same butcher's shop early in May.

One stated that she had bought some cooked meat there but could not remember whether it was corned beef. One woman thought she had bought some brawn, but her husband, also a patient, could not remember having had any brawn but was quite certain that they had eaten corned beef. Another woman was in the habit of preparing corned beef sandwiches for her husband, a milk roundsman, who contracted typhoid. Neither she nor her daughter had had any of this meat, but both became infected. In this case cross-contamination in the kitchen is a possibility. Finally, a little boy, a symptomless excreter, picked up *Salm. typhi* from a neighbour's child with whom he played and who was later confirmed as a clinical case. In six households some members disliked corned beef and had not eaten any; they remained well.



Geographical distribution of the 25 cases resident in Harlow.

The case of a boy of 12 years is particularly interesting because, apart from the woman in Croydon mentioned earlier, he is the only patient living outside the localized area of the outbreak and his family never buy at the particular butcher's shop. He and another boy helped the milkman referred to earlier with his rounds; each worked during alternate weeks. His turn was during the week ending 11th May, and on at least one occasion he had a corned beef sandwich from the milkman. He fell ill on 22nd May, five days after the milkman. The other boy, who was also given sandwiches by his employer but at a different time, did not sicken.

The implicated butcher's shop belongs to an organization which has many shops and stores in London and the Home Counties. The cleanliness of this shop is satisfactory. The staff consists of two butchers, one of whom is in charge, and a 15-year-old apprentice who contracted typhoid fever. The two butchers have been with the same shop many years, the apprentice only since 16th April. A fourth person employed temporarily had left before the out-

break. A grocer's shop belonging to the same organization is next door. It has a separate entrance but in the back communicates with the butcher's shop, and clothes lockers and toilets are common to both.

The fact that members from most of the affected households had shopped at the suspected shop is in itself very significant, since of the three butchers in The Stow shopping centre, all selling sliced corned beef on the premises, it is the one with the smallest trade. The corned beef comes out of 6-lb. (2·7-kg.) tins manufactured in South America. The tins are opened when required and the meat is sliced and sold loose. According to the records in the butcher's shop, there was 3-lb. (1·36-kg.) of corned beef left unsold on Saturday, 4th May. During the week ended 11th May three new tins were opened, and of the contents of the last one only 2-lb. (0·9-kg.) was sold by closing-time on Saturday. If one assumes that on average the same quantity of corned beef was sold every day during the week in question, then the contents of a newly opened tin were sold over a period of three days, though it could possibly be longer if trade was slack during that part of the week.

There is evidence pointing to 9th and 10th May as being two of the dates when the contaminated meat consumed by eight patients was bought. Their onset of symptoms was between 17th and 26th May, giving an incubation period of 9 to 18 days. In five persons the date of onset was 15th May, and it must therefore be assumed that either they bought and consumed the infected food up to three days before 10th May or their incubation period was particularly short.

Other investigations also pointed to the week ending 11th May as the time of infection, and in the case of seven patients it was possible to pinpoint the date when the contaminated meat was purchased. A woman and her husband bought corned beef at the implicated shop regularly every Friday. Both fell ill—one on 18th May the other on 19th May. A relative, living in Croydon, stayed with them in Harlow on 11th and 12th May. On the first day of her stay they all had corned beef sandwiches and she fell ill on 23rd May. In this case corned beef was purchased on Friday 10th May. In another incident, father, mother and a little boy fell ill on 17th, 21st and 25th May, respectively. The woman was not a customer of the implicated butcher's but shopped there on one occasion only when she took her child to hospital to see an E.N.T. consultant. The date of the visit was checked with the hospital and found to be Friday, 10th May.

Finally, a case which came to light early in July is of great clinical and epidemiological interest. It concerns a woman of 47 who suffered from an eczematous eruption at the beginning of May. This spread considerably and after unsuccessful treatment by the family practitioner she was admitted to hospital on 21st May and discharged on 6th June, the rash having cleared. Starting from her first day of stay in hospital she had bouts of high temperature, particularly in the evenings, with shiverings and headaches. When dis-

charged home she was lethargic, had anorexia and felt generally ill. On 16th June she again started running a high temperature and complained of shivering followed by profuse sweating. She was readmitted to hospital on 3rd July, when *Salm. typhi* was isolated from her faeces. A shopping diary found in the woman's home showed that corned beef was purchased from the particular butcher's shop on 9th May. From the examination of this woman's temperature chart and clinical notes it is quite certain that in addition to her eczema she was suffering from typhoid fever during her first stay in hospital and that the date of onset was around 21st May. She then had a relapse 10 days after discharge.

Discussion

Having established the shop as the place of infection and corned beef as the vehicle, it is now necessary to consider how this food became contaminated. Exhaustive search did not reveal a carrier, although at first this appeared to be the most likely possibility.

Assistants in the suspected butcher's shop had two Widal tests, one rectal swab, two faecal specimens, and a urine test each. The apprentice who himself developed typhoid fever was a victim and not the cause of the outbreak. He was in the habit of picking up bits of corned beef left over on the slicing-board, and, when the shop manager was in a generous mood, was also allowed to have some corned beef for his morning tea break. He had not been outside Harlow and had no previous history of ill-health.

One man in the shop looked like a possible carrier. He was employed there temporarily from 24th March, and on 28th March was away ill. During the war he was a merchant seaman and while on the Gold Coast had a severe febrile illness of unknown nature. This man had two rectal swabs, two stool cultures, two Widal tests, two blood cultures, and two urine tests, and all were negative. So was a sewer swab which, unknown to the man, was placed in a manhole outside his house.

The staff of the adjoining grocery shop were most carefully investigated—all with negative results.

Even people who had the remotest connection with the shop, such as decorators who worked there towards the third week in April, were subjected to examination.

Any unsold piece of corned beef is stored overnight in a refrigerated room, where it is kept on a separate shelf. Nevertheless, the possibility was considered that it might have somehow come in contact with raw meat. Various salmonellae which live in the gut of the animal are often found on carcasses, but *Salm. typhi* has never been found in raw meat. It was thought that perhaps the surface of the carcass became contaminated by the hands of a meat porter and that the bacteria were accidentally transferred to cooked meat. Every

porter who had delivered carcasses during the last two weeks in April and the first 10 days in May was therefore traced and examined but no carriers were found.

The contents of several tins of corned beef of the same batch as those sold during the week ending 11th May were bacteriologically examined, but no *Salm. typhi* was grown from them.

The conclusions that could be drawn from all these investigations were that (a) only one 6-lb. (2·7-kg.) tin of corned beef was involved, because there were only 26 cases of typhoid and *Salm. typhi* was not found in other tins of the same batch, and (b) the meat was already contaminated when the tin was opened.

Instances of canned food contaminated with various strains of *Salmonella* before the tins were unsealed have been reported (Wildman *et al.*, 1951; Report, 1956). Two outbreaks of typhoid fever associated with tinned meat bear resemblance to the Harlow outbreak. One was in Crowthorne (Moore, 1950) the other in Pickering (Couper *et al.*, 1956). The mechanism of contamination in the latter incident was assumed to have been through the leakage of polluted cooling-water applied after heat-sterilization of the tins. Similar conclusions were arrived at earlier in a case of infected canned cream (Sandiford, 1954).

The tin implicated in the Harlow outbreak could not be found. At the time of the investigation it was lying buried together with scores of similar tins under many tons of refuse on the municipal tip. However, 10 unopened tins of the same batch were traced and submitted to expert examination. They were of the tapered-hole and bragged-cap variety with a lock soldered side and fully soldered slip-on ends. In two of them viable mesophilic aerobic and anaerobic spore-forming bacteria were found. This suggests post-sterilization contamination through seam leakage, because the organisms could not have survived the high temperature to which tins of corned beef are normally subjected. Moreover, the bacteria were found in that portion of the meat which was adjacent to the end-seam areas and not in the centre, where the product would have received the least heat. However, no evidence was found of seam damage in any of the tins when they were submitted to air pressure and fluorescent leak-detection tests. The failure to do so can be explained by the possibility of the microscopic channels becoming blocked either by tiny particles of food or by solder which had undergone corrosion.

One must assume, therefore, that there was seam leakage in the tin responsible for the Harlow outbreak and that the contamination of the product occurred either through cooling in polluted water or from a typhoid carrier who handled the tin when it was still wet after cooling.

Summary

An outbreak of typhoid fever due to *Salmonella typhi* phage type A is described. Twenty-one or possibly 23 of the 26 affected persons had eaten corned beef purchased sliced from one shop. The others became infected through close contact with confirmed cases. Very extensive investigations did not reveal a carrier in either this or any other shop within the localized area of the outbreak. There is strong circumstantial evidence that the vehicle of infection was corned beef from one 6-lb. (2·7-kg.) tin contaminated before it was opened.

We should like to record our thanks to Drs. E. S. Anderson, Betty Hobbs and Joan Taylor, of the Central Public Health Laboratory, Colindale, for phage-typing, bacteriological examination of corned beef, and identification of *Salmonella wangata* respectively; to Dr. R. Pilsworth, Director, Public Health Laboratory, Chelmsford, and his staff for examination of a large number of specimens of food, blood and faeces; to Dr. W. Alcock, M.O.H. Watford, Dr. S. L. Wright, M.O.H. Croydon and Dr. J. D. Kershaw, M.O.H. Colchester and Consultant Myland Hospital, for information about the four patients diagnosed and treated in their areas; to Mr. J. R. Everton, of the Research Department, Metal Box Company Ltd., for the expert report on tins and their contents; to Messrs Parke Davis Ltd., for supplying chloramphenicol pure powder, and Beecham Laboratories Ltd., for ampicillin—both for sensitivity tests; and to the staff of the Health Department, Harlow, and the pathological laboratory, St. Margaret's Hospital, Epping, for their many long hours of work in connection with the outbreak.

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TABLE I—BIRTHS, DEATHS, ANNUAL RATES, ETC., 1963

Health Area and County District	Estimated mid-year population 1962	Estimated mid-year population 1963	Estimated Net Migration	Live Births No.	Live Births Rate*	Deaths No.	Deaths Rate*	Infant Deaths No.	Infant Deaths Rate‡	Stillbirths	Death under 1 week	Perinatal Mortality Rate†
Colchester B.	67,010	67,430	— 48	1,289	**19.1**	821	**12.2**	27	**21**	21	16	28
Harwich B.	13,570	13,810	+ 163	241	**17.5**	164	**11.9**	—	—	—	—	—
Brightlingsea U.	4,770	4,950	+ 185	83	**16.8**	88	**17.8**	2	**24**	2	2	47
Clacton U.	28,390	29,420	+1,193	394	**13.4**	557	**18.9**	10	**25**	11	6	42
Frinton and Walton U.	9,550	9,900	+ 431	118	**11.9**	199	**20.1**	1	**9**	—	—	—
Halstead U.	6,580	6,590	— 18	121	**18.4**	93	**14.1**	3	**25**	2	2	33
West Mersea U.	3,110	3,160	+ 68	48	**15.2**	66	**20.9**	—	—	—	—	—
Wivenhoe U.	3,030	3,300	+ 212	90	**27.3**	32	**9.7**	2	**22**	2	2	43
Halstead R.	16,390	16,400	+ 7	252	**15.4**	249	**15.2**	9	**36**	5	6	43
Lexden and Winstree R.	23,230	23,930	+ 570	438	**18.3**	308	**12.9**	7	**16**	8	6	32
Tendring R.	25,020	25,340	+ 307	374	**14.8**	361	**14.2**	1	**3**	10	1	29
North-East Essex	133,640	136,800	+3,118	2,159	**15.8**	2,117	**15.5**	35	**16**	40	25	30
Chelmsford B.	51,180	52,230	+ 408	1,092	**20.9**	450	**8.6**	19	**17**	7	13	18
Maldon B.	10,720	10,990	+ 231	221	**20.1**	182	**16.6**	1	**5**	4	—	18
Saffron Walden B.	8,110	8,350	+ 215	146	**17.4**	121	**14.5**	2	**14**	1	1	14
Braintree and Bocking U.	20,760	20,970	+ 97	392	**18.7**	279	**13.3**	6	**15**	4	5	23
Burnham-on-Crouch U.	4,180	4,200	+ 8	60	**14.3**	48	**11.4**	1	**17**	—	1	17
Witham U.	9,650	9,860	+ 155	172	**17.4**	117	**11.9**	4	**23**	1	2	17
Braintree R.	23,140	23,100	— 177	391	**16.9**	254	**11.0**	9	**23**	7	7	35
Chelmsford R.	49,720	51,600	+1,499	1,026	**19.9**	645	**12.5**	16	**16**	11	7	17
Dunmow R.	20,760	21,160	+ 261	385	**18.2**	246	**11.6**	5	**13**	6	3	23
Maldon R.	16,380	16,450	— 30	306	**18.6**	206	**12.5**	6	**20**	5	4	29
Saffron Walden R.	18,160	18,140	— 114	317	**17.5**	223	**12.3**	3	**9**	6	3	28
Mid-Essex §	232,760	237,050	+2,553	4,508	**19.0**	2,771	**11.7**	72	**16**	52	46	21
Basildon U.	95,360	99,580	+2,522	2,436	**24.5**	738	**7.4**	33	**14**	31	24	22
Benfleet U.	34,520	36,420	+1,542	778	**21.4**	420	**11.5**	11	**14**	14	8	28
Canvey Island U.	16,890	18,110	+1,058	391	**21.6**	229	**12.6**	9	**23**	14	1	37
Rayleigh U.	19,840	20,290	+ 272	395	**19.5**	217	**10.7**	8	**20**	9	5	35
Rochford R.	32,500	34,240	+1,523	711	**20.8**	494	**14.4**	9	**13**	11	6	24
South-East Essex	103,750	109,060	+4,395	2,275	**20.9**	1,360	**12.5**	37	**16**	48	20	29
Brentwood U.	51,450	52,930	+1,161	904	**17.1**	585	**11.1**	13	**14**	7	8	16
Hornchurch U.	132,400	133,380	— 307	2,539	**19.0**	1,252	**9.4**	35	**14**	41	20	24
Thurrock U.	115,430	117,150	+ 616	2,080	**17.8**	976	**8.3**	44	**21**	37	23	28
South Essex	299,280	303,460	+1,470	5,523	**18.2**	2,813	**9.3**	92	**17**	85	51	24
Harlow U.	58,180	61,140	+1,690	1,505	**24.6**	235	**3.8**	14	**9**	21	8	19
Chingford B.	46,350	46,230	— 291	615	**13.3**	444	**9.6**	5	**8**	6	1	11
Wanstead and Woodford B.	61,410	61,360	— 173	869	**14.2**	746	**12.2**	18	**21**	9	13	25
Chigwell U.	62,070	62,240	— 90	762	**12.2**	502	**8.1**	16	**21**	10	11	27
Epping U.	9,970	10,070	+ 6	182	**18.1**	88	**8.7**	2	**11**	2	1	16
Waltham Holy Cross U.	11,900	12,150	+ 65	290	**23.9**	105	**8.6**	6	**21**	7	3	34
Forest §	191,700	192,050	— 483	2,718	**14.2**	1,885	**9.8**	47	**17**	34	29	23
Epping and Ongar R.	37,790	38,500	+ 318	745	**19.4**	353	**9.2**	19	**26**	13	16	38
Romford B.	115,600	115,960	— 697	1,956	**16.9**	899	**7.8**	34	**17**	45	24	34
Barking B.	72,440	72,070	— 648	1,028	**14.3**	750	**10.4**	30	**29**	24	15	37
Dagenham B.	109,470	108,950	— 993	1,499	**13.8**	1,026	**9.4**	27	**18**	27	16	28
Ilford B.	177,460	176,550	—1,483	2,751	**15.6**	2,178	**12.3**	56	**20**	40	36	27
Leyton B.	92,970	92,550	— 554	1,504	**16.3**	1,370	**14.8**	29	**19**	26	19	29
Walthamstow B.	108,190	107,260	—1,283	1,665	**15.5**	1,312	**12.2**	37	**22**	30	20	29
ADMINISTRATIVE COUNTY	1,895,600	1,918,420	+9,887	33,561	**17.5**	20,628	**10.8**	589	**17.6**	537	365	26.5
Administrative County, 1962			+21,493	32,162	**17.0**	19,945	**10.5**	566	**17.6**	534	371	27.7

* per 1,000 estimated population ‡ per 1,000 live births † per 1,000 total births

§ excluding that part of Epping and Ongar R.D. in the Area. Estimated mid-1963 populations for complete Health Areas are: Mid Essex; 256,430; Forest; 211,170.

TABLE II—CAUSES OF DEATH BY AGE, 1963

	Male									Female								
	0–	15–	25–	35–	45–	55–	65–	75–	Total	0–	15–	25–	35–	45–	55–	65–	75–	Total
1. Tuberculosis—respiratory	—	—	3	5	12	24	19	6	69	—	—	—	2	4	2	1	6	15
2. Tuberculosis—other	—	—	—	—	2	—	—	1	3	—	—	—	—	1	1	—	—	2
3. Syphilitic disease	—	—	—	—	1	4	3	4	12	—	—	—	—	1	1	6	5	13
4. Diphtheria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
5. Whooping Cough	1	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
6. Meningococcal infections	2	—	—	—	—	—	—	—	2	1	—	—	—	—	—	—	1	2
7. Acute poliomyelitis	—	—	1	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—
8. Measles	—	—	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	2
9. Other infective and parasitic diseases	3	1	—	3	1	—	—	2	10	—	—	2	1	2	3	6	3	17
10. Malignant neoplasm, stomach	—	—	—	10	17	71	91	75	264	—	—	1	6	9	24	71	75	186
11. Malignant neoplasm, lung and bronchus	—	—	—	14	130	309	313	125	891	—	—	—	10	14	39	51	37	151
12. Malignant neoplasm, breast	—	—	—	—	1	1	—	2	4	—	—	5	21	73	95	93	96	383
13. Malignant neoplasm, uterus	—	—	—	—	—	—	—	—	—	—	—	2	10	21	31	32	32	128
14. Other malignant and lymphatic neoplasms	14	14	18	36	108	209	281	309	989	17	4	14	39	82	175	247	297	875
15. Leukaemia and aleukaemia	11	4	1	9	4	8	11	9	57	8	4	1	5	6	10	6	6	46
16. Diabetes	—	1	2	—	1	10	16	20	50	1	—	—	—	1	14	40	51	107
17. Vascular lesions of nervous system	5	2	7	13	47	152	315	565	1106	—	2	4	9	45	150	398	1,050	1,658
18. Coronary disease, angina	—	1	7	53	266	593	775	729	2424	—	1	—	5	36	211	530	838	1,621
19. Hypertension with heart disease	—	1	—	1	1	19	52	68	142	—	—	—	1	4	13	43	136	197
20. Other heart disease	4	1	4	18	31	75	172	496	801	—	1	2	20	40	80	188	190	1,241
21. Other circulatory disease	—	—	2	11	20	74	115	223	445	—	1	2	4	13	41	113	318	492
22. Influenza	4	—	—	1	1	7	6	12	31	2	1	—	—	—	4	6	33	46
23. Pneumonia	56	3	3	6	20	71	168	445	772	30	2	3	7	19	38	152	603	854
24. Bronchitis	9	2	—	4	29	172	287	359	862	10	—	—	3	7	37	89	243	389
25. Other diseases of respiratory system	4	—	2	2	10	24	37	42	121	4	1	—	2	2	6	15	39	69
26. Ulcer of stomach and duodenum	—	—	1	1	3	19	19	39	82	—	—	—	1	2	2	7	35	47
27. Gastritis, enteritis and diarrhoea	5	1	1	2	2	5	11	8	35	6	—	—	2	1	9	13	33	64
28. Nephritis and nephrosis	—	1	2	3	11	5	14	17	53	1	2	1	6	2	6	10	17	45
29. Hyperplasia of prostate	—	—	—	—	1	4	25	60	90	—	—	—	—	—	—	—	—	—
30. Pregnancy, childbirth, abortion	—	—	—	—	—	—	—	—	—	—	3	6	3	—	—	—	—	12
31. Congenital malformations	82	7	3	6	6	5	4	1	114	69	—	—	2	7	5	4	3	90
32. Other defined and ill-defined diseases	229	14	22	21	46	81	114	190	717	157	15	15	31	48	107	178	387	938
33. Motor vehicle accidents	11	42	14	10	14	23	20	16	150	3	5	6	5	10	14	12	9	64
34. All other accidents	24	14	15	14	16	18	19	49	169	10	2	2	3	5	13	37	105	177
35. Suicide	—	11	18	13	20	37	14	14	127	—	6	16	11	15	24	14	9	95
36. Homicide and operations of war	1	1	—	—	1	1	—	—	4	2	—	1	—	1	—	—	—	4
All causes	**465**	**121**	**126**	**256**	**822**	**2,021**	**2,901**	**3,886**	**10,598**	**323**	**50**	**83**	**209**	**471**	**1,155**	**2,362**	**5,377**	**10,030**
All causes 1962	442	116	354		2,778		2,869	3,705	10,264	308	42	292		1,661		2,238	5,140	9,681
All causes 1961	431	105	400		2,668		2,703	3,580	9,887	327	45	294		1,615		2,221	5,029	9,531
All causes 1960	432	97	351		2,559		2,616	3,258	9,313	312	40	309		1,536		2,070	4,769	9,036
All causes 1959	456	110	390		2,678		2,673	3,393	9,700	330	31	265		1,581		2,085	4,735	9,027
All causes 1958	391	105	345		2,494		2,612	3,388	9,335	310	49	279		1,573		2,082	4,424	8,717

TABLE III—CAUSES OF DEATH BY HEALTH AREAS AND COUNTY DISTRICTS, 1963

Health Area and County District	Tuberculosis respiratory	Tuberculosis other	Syphilitic disease	Other infective and parasitic diseases*	Malignant neoplasm, stomach	Malignant neoplasm, lung and bronchus	Malignant neoplasm, breast	Malignant neoplasm, uterus	Other malignant and lymphatic neoplasms	Leukaemia aleukaemia	Diabetes	Vascular lesions of nervous system	Coronary disease angina	Other heart and circulatory diseases	Influenza	Pneumonia	Bronchitis	Other diseases of respiratory system	Ulcer of stomach and duodenum	Gastritis enteritis and diarrhoea	Nephritis and nephrosis	Hyperplasia of prostate	Pregnancy childbirth abortion	Congenital malformations	Other diseases and homicide	Motor vehicle accidents	All other accidents	Suicide	All causes
Colchester B	1	1	1	3	14	24	19	6	70	—	4	97	167	137	1	68	51	8	6	2	5	6	—	14	78	8	17	13	821
Harwich B	2	—	—	—	3	10	5	2	11	—	—	32	34	30	1	7	6	4	—	—	1	—	—	—	6	2	2	4	164
Brightlingsea U	—	—	—	—	—	1	2	1	8	—	3	11	23	16	1	4	5	1	2	—	—	—	—	—	6	—	2	2	88
Clacton U	—	—	1	—	11	24	11	4	36	5	2	106	133	105	2	28	26	4	4	2	1	5	1	2	30	—	8	6	557
Frinton & Walton U	—	—	—	—	2	12	6	1	28	—	1	30	47	37	4	7	2	1	—	—	1	4	—	2	7	4	2	1	199
Halstead U	—	—	—	—	4	6	1	1	9	1	—	16	14	16	1	9	1	—	—	1	1	—	—	1	7	1	2	1	93
West Mersea U	—	—	—	—	1	—	1	1	8	2	2	7	13	15	2	7	1	—	—	—	1	—	—	—	4	—	1	—	66
Wivenhoe U	—	—	—	—	—	3	1	—	—	—	1	6	8	4	—	2	1	1	—	—	1	—	—	—	3	—	1	—	32
Halstead R	1	—	—	—	7	10	2	—	28	2	1	36	44	45	2	16	11	3	3	2	1	2	—	1	24	1	4	3	249
Lexden and Winstree R	—	—	1	1	8	5	2	4	40	1	3	42	66	58	2	17	10	1	2	2	—	1	1	2	34	1	2	2	308
Tendring R	1	—	1	1	5	12	4	1	27	—	1	84	79	66	3	18	18	1	2	—	—	1	—	2	26	1	5	2	361
North-East Essex	4	—	3	2	41	83	35	15	195	11	14	372	461	392	18	115	81	16	15	7	7	13	2	10	147	10	29	21	2,117
Chelmsford B	2	—	1	1	8	21	12	1	42	4	2	64	96	46	—	42	16	7	2	3	—	1	—	8	51	6	8	6	450
Maldon B	—	1	—	2	3	5	1	2	19	1	—	39	37	36	—	12	3	1	—	—	1	1	—	1	14	1	2	—	182
Saffron Walden B.	—	—	—	—	3	4	2	2	8	1	—	19	19	16	1	23	5	—	1	1	—	2	—	2	9	—	2	1	121
Braintree & Bocking U	2	—	—	—	5	14	4	2	21	1	5	47	59	38	—	25	12	4	2	1	1	2	—	4	25	—	3	2	279
Burnham-on-Crouch U	—	—	—	—	2	2	1	1	2	—	—	8	7	9	—	5	3	—	—	—	—	—	—	1	6	—	1	—	48
Witham U	—	—	1	—	2	7	—	—	18	1	—	9	22	15	—	8	6	4	—	—	—	2	—	1	16	1	2	2	117
Braintree R	1	—	—	—	5	9	4	2	18	3	2	31	60	30	—	22	16	1	2	1	2	1	—	3	28	7	4	2	254
Chelmsford R	1	—	1	—	15	17	11	4	66	4	7	90	109	101	1	75	30	10	5	4	2	3	1	8	55	4	16	5	645
Dunmow R	—	—	—	1	3	7	8	2	24	2	1	26	43	45	—	23	6	1	4	1	3	2	—	—	29	6	7	2	246
Maldon R	1	—	—	1	3	11	4	2	24	1	2	43	29	31	1	13	7	1	2	1	—	1	—	1	17	3	5	2	206
Saffron Walden R	—	—	1	—	2	11	3	3	24	—	4	28	41	43	—	16	12	4	3	1	4	1	—	1	15	1	3	2	223
Mid-Essex †	7	1	4	5	51	108	50	21	266	18	23	404	522	410	3	264	116	33	21	13	13	16	1	30	265	29	53	24	2,771
Basildon U	1	—	1	1	11	45	10	4	72	1	7	97	177	80	1	59	45	9	4	2	4	5	—	7	55	13	17	10	738
Benfleet U	1	—	—	1	10	20	6	3	38	3	2	62	90	60	—	23	34	1	4	2	3	3	—	3	29	4	9	9	420
Canvey Island U	1	—	2	—	8	16	2	4	15	—	2	43	53	22	—	10	15	2	—	—	—	2	—	4	17	2	6	3	229
Rayleigh U	3	—	—	—	4	15	3	—	24	2	1	36	35	35	—	13	17	—	—	2	—	1	1	1	16	3	3	2	217
Rochford R	1	—	—	1	9	27	12	3	48	—	5	101	120	58	1	35	22	6	—	3	2	—	—	3	25	1	10	1	494
South-East Essex	6	—	2	2	31	78	23	10	125	5	10	242	298	175	1	81	88	9	4	7	5	6	1	11	87	10	28	15	1,360
Brentwood U	—	1	—	2	7	23	12	4	72	6	4	65	102	105	2	49	41	4	3	1	2	6	—	5	42	5	18	4	585
Hornchurch U	7	—	—	2	34	61	28	8	108	3	8	181	230	220	7	82	113	10	9	4	6	5	2	16	77	11	7	13	1,252
Thurrock U	5	—	—	3	17	48	18	11	81	4	4	101	201	159	2	83	54	5	7	6	6	4	1	14	86	17	28	11	976
South Essex	12	1	—	7	58	132	58	23	261	13	16	347	533	484	11	214	208	19	19	11	14	15	3	35	205	33	53	28	2,813
Harlow	—	—	—	—	8	17	2	3	24	2	2	27	38	32	1	19	7	3	2	2	1	—	—	8	20	7	4	6	235
Chingford B	1	—	—	—	14	31	11	—	49	1	1	55	95	57	3	26	32	3	3	3	1	4	—	4	35	3	6	6	444
Wanstead & Woodford B	1	—	2	2	13	32	21	2	83	2	4	115	152	127	2	51	35	7	2	6	3	2	—	4	56	3	11	8	746
Chigwell U	4	—	1	1	13	29	13	2	49	1	3	61	93	65	3	44	36	6	2	5	—	2	—	7	47	4	6	5	502
Epping U	—	—	1	1	2	4	—	—	9	—	1	16	17	10	—	10	2	1	—	—	1	—	—	2	4	2	2	2	88
Waltham Holy Cross U	—	—	—	—	3	5	2	1	17	2	—	13	17	16	1	5	8	—	1	—	—	—	—	1	7	1	3	2	105
Forest †	6	—	4	4	45	101	47	5	207	6	9	260	374	275	9	136	113	17	8	14	5	8	—	18	149	13	28	24	1,885
Epping & Ongar R	1	—	—	—	8	16	4	1	23	—	4	49	60	65	1	35	10	5	—	1	—	—	—	3	46	4	13	4	353
Romford B	6	—	1	2	19	60	13	6	66	6	7	102	202	119	2	61	68	8	5	5	4	2	2	10	82	19	10	12	899
Barking B	6	1	—	—	24	54	18	4	60	4	6	91	147	102	1	57	51	8	4	2	7	3	—	10	52	10	18	10	750
Dagenham B	10	—	—	—	35	74	21	5	96	9	12	91	196	141	2	59	111	14	5	6	8	2	1	7	81	11	11	18	1,026
Ilford B	12	—	5	5	46	91	47	9	191	13	20	244	407	351	8	212	131	16	13	15	11	8	1	20	225	21	37	19	2,178
Leyton B	6	1	3	3	23	76	21	8	94	7	7	180	210	327	11	136	84	14	9	4	8	3	1	11	84	17	11	11	1,370
Walthamstow B	6	—	1	1	36	83	19	8	114	8	16	161	253	228	7	110	87	11	16	8	6	3	—	10	87	9	17	7	1,312
ADMINISTRATIVE COUNTY	84	5	25	35*	450	1,042	387	128	1,864	103	157	2,764	4,045	3,318	77	1,626	1,251	190	129	99	98	90	12	204	1,663	214	346	222	20,628
Administrative County, 1962	99	10	24	29	527	950	376	128	1,925	99	143	2,699	3,923	3,368	93	1,353	1,076	151	181	88	96	89	12	190	1,608	215	317	176	19,945

* including meningococcal infections 4, measles 2, whooping cough 1 and acute poliomyelitis 1

† excluding that part of Epping and Ongar R.D. in the Area

TABLE IV—INFECTIOUS AND OTHER NOTIFIABLE DISEASES, 1963

Health Area and County District	Scarlet fever	Whooping cough	Measles	Acute pneumonia	Tuberculosis respiratory	Tuberculosis meninges and C.N.S.	Tuberculosis other	Meningococcal infection	Acute poliomyelitis (paralytic)	Acute poliomyelitis (non-paralytic)	Dysentery	Ophthalmia neonatorum	Puerperal pyrexia	Para-typhoid fevers	Erysipelas	Food poisoning	Infective hepatitis	Others †	Total
Colchester B.	32	28	1,552	26	12	—	—	—	1	—	101	—	13	—	3	1	22	4	1,795
Harwich B.	2	19	614	10	3	—	—	—	2	—	6	—	1	—	—	—	—	2	659
Brightlingsea U.	—	—	227	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	228
Clacton U.	12	—	406	—	4	—	—	—	—	—	5	—	—	—	—	—	—	—	427
Frinton & Walton U.	10	—	30	9	3	—	—	—	—	—	2	—	—	—	—	4	—	1	59
Halstead U.	1	—	97	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	98
West Mersea U.	—	3	79	—	—	—	—	—	—	—	2	—	—	—	—	—	—	—	84
Wivenhoe U.	—	—	157	—	—	—	—	—	—	—	—	—	1	—	—	—	—	—	158
Halstead R.	9	4	147	2	3	—	1	—	—	—	—	—	—	—	—	—	—	—	166
Lexden & Winstree R.	12	22	346	26	2	—	1	—	—	—	4	—	—	—	4	—	1	—	418
Tendring R.	30	24	597	8	5	—	—	—	—	—	3	1	—	—	—	—	1	—	669
North-East Essex	76	72	2,700	55	21	—	2	—	2	—	22	1	2	—	4	4	2	3	2,966
Chelmsford B.	29	58	650	12	4	—	—	—	—	—	—	—	3	—	1	—	—	—	757
Maldon B.	—	3	2	—	3	—	2	—	—	—	—	—	—	—	—	—	—	—	10
Saffron Walden B.	—	—	74	—	3	—	—	—	—	—	—	—	—	—	1	—	—	—	78
Braintree & Bocking U.	7	1	190	—	4	—	—	—	—	—	—	—	—	—	—	—	—	—	202
Burnham-on-Crouch U.	1	15	10	2	—	—	—	—	—	—	1	—	—	—	3	—	—	—	32
Witham U.	7	1	156	—	4	—	—	—	—	—	1	—	—	—	—	—	—	—	169
Braintree R.	8	22	151	—	2	—	—	—	—	—	—	—	—	—	1	3	—	—	187
Chelmsford R.	9	85	812	12	8	1	—	—	—	—	4	—	—	—	3	7	1	—	942
Dunmow R.	5	2	626	2	3	—	—	—	—	—	4	—	—	—	—	1	—	—	643
Maldon R.	3	17	182	4	7	—	—	—	1	—	2	—	1	—	—	1	4	—	222
Saffron Walden R.	16	21	412	13	1	—	—	—	—	—	15	—	—	—	3	1	2	2	486
Mid-Essex	85	225	3,265	45	39	1	2	—	1	—	27	—	4	—	12	13	7	2	3,728
Basildon U.	42	65	1,404	7	22	—	2	2	—	—	6	—	9	—	—	1	5	—	1,565
Benfleet U.	17	18	397	6	9	—	3	—	—	—	1	—	—	—	2	3	5	—	461
Canvey Island U.	18	21	614	7	14	—	4	—	—	—	—	—	—	—	3	4	1	—	686
Rayleigh U.	5	3	147	26	5	—	—	—	—	—	—	—	—	—	2	—	1	—	189
Rochford R.	9	9	632	5	9	—	2	—	—	—	4	—	88	—	—	16	33	1	808
South-East Essex	49	51	1,790	44	37	—	9	—	—	—	5	—	88	—	7	23	40	1	2,144
Brentwood U.	8	30	1,158	10	10	—	1	—	—	—	82	—	—	1	1	2	—	1	1,304
Hornchurch U.	74	135	1,674	3	24	—	4	—	—	—	25	2	2	1	7	13	4	—	1,968
Thurrock U.	73	110	1,285	62	30	—	9	—	—	—	79	2	5	1	5	—	—	1	1,662
South Essex	155	275	4,117	75	64	—	14	—	—	—	186	4	7	3	13	15	4	2	4,934
Harlow U.	121	179	1,851	14	32	—	2	—	—	—	398	—	2	—	3	7	33	21	2,663
Chingford B.	45	91	579	18	7	—	6	—	—	—	24	—	1	—	4	3	*	—	778
Wanstead & Woodford B.	7	54	504	13	14	—	2	—	—	—	59	—	22	—	5	9	*	1	690
Chigwell U.	35	58	679	6	28	—	2	1	—	—	45	—	—	—	3	6	*	—	863
Epping U.	2	15	149	—	11	—	—	—	—	—	11	—	—	—	1	—	—	—	189
Waltham Holy Cross U.	2	22	263	1	3	—	1	—	—	—	—	—	—	—	2	—	*	—	294
Forest	91	240	2,174	38	63	—	11	1	—	—	139	—	23	—	15	18	*	1	2,814
Epping & Ongar R.	7	31	432	6	8	—	1	—	—	—	39	—	—	—	2	2	—	—	528
Romford B.	37	109	1,100	7	31	—	1	2	—	—	217	2	2	—	2	13	16	1	1,540
Barking B.	45	70	861	19	27	—	4	—	—	—	20	1	5	—	3	—	*	1	1,056
Dagenham B.	58	61	1,045	12	41	1	5	2	—	—	69	2	—	—	2	5	*	1	1,304
Ilford B.	93	183	1,277	82	53	—	4	1	1	1	295	—	22	—	7	36	*	8	2,063
Leyton B.	27	62	1,069	102	45	1	5	2	—	—	40	—	3	1	5	—	*	3	1,365
Walthamstow B.	67	207	1,696	39	55	—	10	—	—	—	216	5	19	—	7	9	*	1	2,331
ADMINISTRATIVE COUNTY	985	1,858	26,333	571	550	3	72	10	5	1	1,780	15	199	4	85	147	129	49	32,796
Administrative County, 1962	1,136	557	7,756	484	598	5	72	12	3	5	651	12	328	4	105	266	62	28	12,084

† Including Typhoid Fever 26, Malaria 2, Acute Encephalitis, Infective 5, and Acute Encephalitis, Post-infectious 7.
* Not notifiable in these districts, therefore the total for the County of 129 is incomplete.

TABLE V—NUMBER OF PATIENTS RECEIVING COMMUNITY CARE ON 31st DECEMBER, 1963

	Mentally Ill				Psychopathic				Subnormal				Severely Subnormal				Totals				
	Under age 16		*16 and over*		*Under age 16*		*16 and over*		*Under age 16*		*16 and over*		*Under age 16*		*16 and over*		*Under age 16*		*16 and over*		Grand Total
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
Attending day training centre.....	1	—	2	—	—	—	—	—	58	47	137	101	220	188	172	172	279	235	311	273	1098
Awaiting entry thereto	1	—	—	—	—	—	—	—	7	—	2	5	9	4	2	4	17	4	4	9	34
Resident in L.A. home/hostel	—	—	—	7	—	—	—	—	3	2	2	10	8	6	1	4	11	8	3	21	43
Awaiting residence in L.A. home/ hostel	—	—	1	—	—	—	—	—	1	—	38	18	5	2	2	1	6	2	41	19	68
Resident at L.A. expense in other residential homes/hostels	—	—	12	5	—	—	—	—	—	—	1	2	—	4	—	—	—	4	13	7	24
Resident at L.A. expense by boarding out in private household	—	—	—	—	—	—	—	—	—	—	1	4	4	6	1	5	4	6	2	9	21
Receiving home visits and not included above	2	1	214	306	—	—	4	2	23	21	876	826	69	53	270	276	94	75	1,364	1,410	2,943
Total number	4	1	229	318	—	—	4	2	88	68	1,052	955	302	252	446	455	394	321	1,731	1,730	4,176

TABLE VI—NUMBER OF PATIENTS REFERRED DURING YEAR ENDED 31st DECEMBER, 1963

Referred by	Mentally Ill				Psychopathic				Subnormal				Severely Subnormal				Totals				Grand Total
	Under age 16		*16 and over*		*Under age 16*		*16 and over*		*Under age 16*		*16 and over*		*Under age 16*		*16 and over*		*Under age 16*		*16 and over*		
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
General practitioners	—	—	15	19	—	—	—	—	—	—	5	8	1	2	—	—	1	2	20	27	50
Hospitals, on discharge from inpatient treatment	1	—	66	97	—	—	1	—	—	—	14	17	1	1	1	3	2	1	82	117	202
Hospitals, after or during outpatient or day treatment	1	—	17	26	—	—	—	—	—	—	4	4	1	—	—	1	2	—	21	31	54
Local education authorities	1	—	—	—	—	—	—	—	57	42	21	22	59	39	1	1	117	81	22	23	243
Police and courts.....	—	—	5	5	—	—	1	—	—	—	2	—	—	—	—	—	—	—	8	5	13
Other sources	—	2	41	68	—	—	1	—	4	3	24	26	23	22	8	16	27	27	74	110	238
Total	3	2	144	215	—	—	3	—	61	45	70	77	85	64	10	21	149	111	227	313	800

TABLE VII—PROGRESS IN 1963

UNFIT DWELLING-HOUSES DEMOLISHED CLOSED OR REPAIRED DURING 1963					RURAL DISTRICTS										
					Braintree	Chelmsford	Dunmow	Epping and Ongar	Halstead	Lexden and Winstree	Maldon	Rochford	Saffron Walden	Tendring	Totals
Population — Registrar General's estimate mid-year 1963					23,100	51,600	21,160	38,500	16,400	23,930	16,450	34,240	18,140	25,340	268,860
Acreage					59,243	86,505	72,807	75,763	76,637	66,586	78,505	36,099	78,585	66,131	696,861
Closure/Demolition	In Clearance Areas	Housing Act, 1957	(i) Dwelling-houses demolished	Unfit Houses	—	—	—	—	—	—	2	—	4	—	6
				Other Houses	—	—	—	—	—	—	—	—	—	—	—
				Persons Displaced	12	—	—	—	—	—	1	—	—	—	13
	Houses not in Clearance Areas		(ii) Houses demolished as a result of formal or informal action	Houses	5	17	11	8	37	16	14	17	—	64	189
				Persons Displaced (or to be displaced)	8	—	—	18	53	3	19	—	—	48	149
			(iii) Houses closed in pursuance of undertakings and as a result of Closing Orders	By Owners	7	5	15	6	9	14	—	—	29	—	85
				Persons displaced from houses to be closed	10	—	4	16	20	32	6	—	28	—	116
Repair			(iv) Houses reconstructed, enlarged or improved and Demolition Orders revoked (S.24)		—	—	—	6	2	1	—	—	—	—	9
			(v) Houses made fit and houses in which defects were remedied after formal action by L.A.	By Owner	—	3	16	2	12	10	—	—	8	2	53
				By Local Authority	—	—	—	—	—	—	—	—	—	—	—
		Public Health Acts	(vi) Houses made fit and houses in which defects were remedied after formal action by L.A.	By Owner	—	2	—	—	—	5	2	—	—	—	9
				By Local Authority	—	—	—	—	—	—	—	—	—	—	—
		Hsg or P Health Acts	(vii) Houses made fit and houses in which defects were remedied after informal action by L.A.		99	18	8	88	207	328	66	9	32	—	355
			(viii) Local authority owned houses certified unfit by Medical Officer of Health	Houses	—	—	4	—	—	2	—	—	—	—	6
				Persons Displaced	—	—	1	—	—	—	—	—	—	—	1
(a) Total number of houses demolished or closed since 1/1/56 (totalled from returns)					231	151	421	146	278	331	157	195	275	287	2,472
(b) Estimated number of houses remaining unfit for human habitation					375	57	51	30	329	198	179	*	71	97	1,387
(c) Period of years considered necessary for dealing with (b)					4	3	2	2	2	2	5	*	3	3	—

* Cannot be estimated by local authority.

TABLE VIII—HOUSING IMPROVEMENT GRANTS, 1963

Rural Districts	Total of Grants made to 31.12.63	Housing (Financial Provisions) Act, 1958				House Purchase and Housing Act, 1957			Total of all Grants Paid to 31.12.63
		Applications Received		Applications Approved		Applications Received	Applications Approved		
		Dwellings Concerned							
		Conversions	Improvements	No. of Dwellings	Total of Grants Paid	Number of Dwellings Concerned	Number of Dwellings Concerned	Total of Grants Paid	
	£				£			£	£
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Braintree	114,209	2	8	10	3,343	37	37	1,807	119,359
Chelmsford	247,392	1	73	70	20,600	44	41	3,784	271,775
Dunmow	162,486	3	62	60	21,027	40	33	6,426	189,939
Epping & Ongar	101,872	—	16	16	5,337	57	57	7,741	114,950
Halstead	101,599	4	22	25	8,175	16	14	1,875	111,649
Lexden & Winstree	142,767	1	39	40	20,559	86	84	8,538	171,864
Maldon	77,263	6	27	34	11,175	22	22	1,260	89,698
Rochford	48,331	—	—	—	—	48	43	3,495	51,826
Saffron Walden	219,137	—	31	22	6,936	16	14	1,741	137,814
Tendring	55,090	—	24	18	6,140	78	75	7,499	68,729
TOTALS	1,180,146	17	302	295	103,292	444	420	44,266	1,327,603

TABLE IX—Number of Houses Erected During 1963 and the Number of Applicants remaining on Waiting Lists

Rural District Council	*No. of houses erected during the year ended 31st December, 1963*				*No. of applicants on waiting list for Council houses at 31st December, 1963, who are in urgent need of housing accommodation*	
	By the Council		*By Private Enterprise*			
Braintree	4	(54)	148	(115)	116	(118)
Chelmsford	74	(141)	483	(499)	170	(180)
Dunmow	30	(6)	170	(184)	*80	(*85)
Epping and Ongar	44	(65)	288	(208)	*300	(*300)
Halstead	11	(39)	44	(56)	150	(100)
Lexden and Winstree	16	(34)	607	(352)	340	(313)
Maldon	Nil	(50)	216	(122)	19	(19)
Rochford	5	(7)	601	(538)	97	(110)
Saffron Walden	12	(4)	63	(71)	86	(121)
Tendring	2	(32)	178	(260)	60	(100)
Totals	198	(432)	2,798	(2,405)	1,418	(1,446)

Note : 1962 figures given in parenthesis. * Approximate figure.

TABLE X—RECENTLY COMPLETED AND PROBABLE SEWERAGE AND SEWAGE DISPOSAL SCHEMES IN RURAL ESSEX

District Council	Schemes completed in 1963	Schemes under construction at 31.12.1963 and per cent. completed	Parishes in which schemes are anticipated to commence in 1964	Anticipated sewerage and/or sewage disposal schemes	
				1965/66	1967/70
Braintree R.D.	Nil	Nil	Cornish Hall End Finchingfield Terling/Hatfield Peverel†	Coggeshall/Kelvedon Bradwell/Stisted Saling/Shalford Rayne/Panfield	
Chelmsford R.D.	Ingatestone relief sewer	Danbury, Lt. Baddow, Sandon } 80%	Pleshey Good Easter	1964/67 Woodham Ferrers Bicknacre Great Leighs East Hanningfield Roxwell Works extensions Ramsden Heath Works extensions and Downham sewer extensions River Wid Scheme (Stock, Margaretting, Mountnessing and Ingatestone enlargements), Writtle reconstructions	1967/70 Ford End, Great Waltham Springfield Neighbourhood Unit Trunk Sewer, Howe Street, Great Waltham Highwood Rettendon West Hanningfield Village Chignall Smealey Broomfield and Little Waltham Valley Sewer Reconstructions and enlargements
Dunmow R.D.	Hatfield Broad Oak and Hatfield Heath	Great Easton and Duton Hill (95%)	Broxted	1965/66 Leaden Roding and Margaret Roding combined scheme Takeley (sewage works extensions) Lower Chelmer Valley scheme (including sewer extensions in Gt. Dunmow and Barnston and construction of new disposal works at Felsted)	1966/70 None at present
Epping and Ongar R.D.	Matching Green and Beauchamp Roding Moreton (including new works) Manor Road Lambourne	Kelvedon Hatch (60%)	Stondon Massey Roydon—East End and connection to trunk sewer Swallows Cross, Doddinghurst—S.D.W. ext. Nazeing S.D.W. ext.	Broadley Common Hastingwood (including works) Tilegate Thornwood S.D.W. Theydon Bois S.D.W. ext.	Nine Ashes Theydon Bois stormwater relief sewer; Hillman's Cottages, Nr. Abridge; Weald Bridge Road, North Weald; Stanford Rivers (S.D.W. ext. and improvements to sewers) Abridge S.D.W. ext. Abbess Roothing S.D.W. North Weald S.D.W.

† Sewage disposal works overloaded

TABLE X—cont.

District Council	Schemes completed in 1963	Schemes under construction at 31.12.1963 and per cent. completed	Parishes in which schemes are anticipated to commence in 1964	Anticipated sewerage and/or sewage disposal schemes	
				1965/66	1966/70
Halstead R.D.	Toppesfield	Colne Engaine (85%)	Ridgewell Gosfield S.D.W. ext.	Belchamp St. Paul Foxearth Sturmer Extensions at: Earls Colne Sible Hedingham Steeple Bumpstead	Helions Bumpstead Gt. Maplestead Gestingthorpe Birdbrook Wickham St. Paul Bulmer (Street) Stambourne Belchamp Walter
Lexden and Winstree R.D.	Eight Ash Green (Choats Corner to Star Inn) Aldham Church and Gallows Green	Copford and Marks Tey (98%) Gt. Horkesley (60%) Chappel and Wakes Colne (60%) Wakes Colne Green (10%)	Tiptree and Messing Birch and Layer Breton Hardys Green, Birch Dedham Heath	Abberton, Peldon, Langenhoe and Fingringhoe Layer-de-la-Haye Salcott and Virley Easthorpe East Donyland (Blackheath)	Gt. Wigborough Wormingford Langham and Boxted
Maldon R.D. ..	Nil	Gt. Totham and Wickham Bishops (75%) Tillingham and Dengie (10%)	Woodham Walter Gt. Braxted Ext. of Southminster S.D.W. Ext. of Purleigh S.D.W.	Latchingdon, Mundon, Cold Norton and Stow Maries Steeple Althorne and Mayland Langford Bradwell-on-Sea	Tolleshunt D'Arcy Tolleshunt Knights St. Lawrence Tolleshunt Major and Lt. Totham Woodham Mortimer Hazeleigh and Cock Clarks area of Purleigh
Rochford R.D.	Hullbridge—Stage II The Walk, Hullbridge	Rochford Hospital Sewer, Part II (95%) Paglesham (90%) Silchester Corner, Gt. Wakering (25%) Rochford Relief Sewer (15%)	Hockley relief sewer Foulness Island Seaview Estate, Gt. Wakering Havengore S.D.W. extension Part of Mount Bovers Lane, Hawkwell—drainage facilities	Hawkwell Hockley Sutton	Stambridge S.D.W. ext. Ashingdon, Stage I—Fambridge Road, Canewdon Road and Ashingdon Park Estate
Saffron Walden ..... R.D.	Birchanger (west side)	Nil	Littlebury Chesterford Radwinter Debden Henham, Elsenham, Ugley	Gt. Sampford Hempstead Elmdon	Widdington Stansted (Burton End) Chrishall Arkesden Hadstock Lt. Chesterford Clavering
Tendring R.D.	Western Area (covering Elmstead, Alresford, Thorrington and Gt. Bentley) Weeley S.D.W. (aeration ditch)	St. Osyth, Phase III (gravity sewers, rising mains and two pumping stations) 50% Parkeston (interim scheme—pumping screened sewage to sea) 60%	St. Osyth S.D.W. Gt. Bentley sewer extension — Sturricks Lane Gt. Oakley main sewerage Thorpe-le-Soken S.D.W. ext. (filter bed) Gt. Bromley S.D.W.	Thorpe-le-Soken, Pig Street sewer extension Weeley—remainder of parish Lt. Clacton sewer exts. — Amerells and Feverills Rds.	Parkeston (parish of Ramsey) main disposal scheme Ardleigh Manningtree, Mistley, Lawford and Bradfield

TABLE XI—WATER CONSUMPTION IN ESSEX, 1963

Water Undertaking	1946 Consumption			1961 Consumption			1962 Consumption			1963 Consumption		
	Total M.G.D.	Domestic G.H.D.	Metered G.H.D.	Total M.G.D.	Domestic G.H.D.	Metered G.H.D.	Total M.G.D.	Domestic G.H.D.	Metered G.H.D.	Total M.G.D.	Domestic G.H.D.	Metered G.H.D.
Waterworks Companies :												
(a) Herts and Essex	1.548	19.6	16.7	—	—	—	—	—	—	—	—	—
Lee Valley	—	—	—	4.76	32.8	14.0	4.771	31.1	15.2	7.250	33.6	14.1
Southend	6.449	22.5	4.97	12.97	29.3	6.8	13.2	29.4	6.1	13.7	29.7	6.2
South Essex	23.419	28.0	12.8	36.239	28.3	23.1	37.482	28.5	24.2	39.557	30.00	25.4
(b) Stansted	0.084	28.0		—	—	—	—	—	—	—	—	—
Tendring Hundred	1.162	29.8	8.9	1.518	23.96‡	9.49‡	3.350	28.50	13.38	3.524	29.89‡	14.16‡
Colchester & District Water Board	—	—	—	3.668	22.73	18.02	3.715	23.59	17.24	3.677	23.3	16.8
Municipal Boroughs :												
Chelmsford	1.195	29.6	6.8	2.385	32.30	15.35	2.492	32.55	16.13	2.497	32.59	15.21
Colchester	1.83	24.01	12.07	—	—	—	—	—	—	—	—	—
Maldon	0.228	19.0	6.3	0.419	32.78	7.16	0.425	32.44	7.86	0.446	34.28	7.33
(j) Saffron Walden	0.253	38.8	0.15	0.370	37.1	10.2	0.370	37.7	8.8	—	—	—
Urban Districts :												
(c) Basildon	0.054	14.12	5.99	—	—	—	—	—	—	—	—	—
Braintree & Bocking	0.552	33.5		0.815	32.18	10.21	0.856	33.41	8.34	0.958†	38.45†	8.30
Brightlingsea	0.124	22.9	4.66	0.137	25.11	2.34	0.132	24.40	2.75	0.166†	31.76†	1.34
Burnham-on-Crouch	0.072	18.9		0.153	38.25		0.159	38.25		0.163	39.8	
(d) Clacton-on-Sea	0.954*	36.0*		1.421	46.0		—	—		—	—	
Halstead	0.200	33.4		0.250	33.0	5.7	0.253	33.4	5.4	0.263	34.8	5.2
West Mersea	0.065	26.2	0.83	—	—	—	—	—	—	—	—	—
Witham	0.215	24.41	8.40	0.510	33.8	22.5	0.575	32.62	27.9	0.609	36.33	25.83
(e) Wivenhoe	0.062	31.05		0.089	29.68	3.0	—	—	—	—	—	—
Rural Districts :												
(f) Braintree	0.585	31.7	10.7	0.933	31.17	18.95	0.978	32.46	19.32	1.02	34.70†	18.71
Chelmsford	0.843	23.1	10.5	1.800	26.83	14.31	1.847	24.50	13.20	1.913	26.66	11.60
(j) Dunmow	0.340	21.0	9.9	0.588	30.72	7.87	0.607	31.16	7.74	—	—	—
(g) Epping & Ongar	0.038	17.82	3.34	—	—	—	—	—	—	—	—	—
Halstead	0.050	14.35		0.408	23.00	8.00	0.430	23.00	8.00	0.462	24.00	8.00†
Lexden & Winstree	0.314	18.80		—	—	—	—	—	—	—	—	—
Maldon	0.370	21.7	9.2	0.798	25.00	22.00	0.920	26.00	28.00	0.996	25.00†	30.00†
(h) & (j) Saffron Walden	0.412	17.1	8.66	0.974	42.04§	13.61	1.065	47.41	13.45	—	—	—
(i) Tendring	0.150	25.0	5.0	0.186	19.21	—	—	—	—	—	—	—

M.G.D. Million Gallons per day.
G.H.D. Gallons per head per day.
* 1947 consumption.
† Estimated.
‡ Water consumed includes that required by holiday visitors, but consumption per head is based on resident population.
§ Includes wastage from old mains which is being rectified, and some connections for watering farm stock.
(a) This undertaking was transferred to the Lee Valley Water Company incorporated under the Lee Valley Water Act, 1959.
(b) The Stansted Waterworks Company was taken over by the Saffron Walden R.D.C. in 1960 and statistics have since been included in returns from Saffron Walden R.D.C.
(c) The small undertaking of the Basildon U.D.C. at Langdon Hills was transferred to the Southend Waterworks Company during 1959.
(d) } (e) } Taken over by Tendring Hundred Waterworks Company on 1st April, 1962.
(f) Metered supply includes bulk supply to Wethersfield Airfield.
(g) Refers to that part of the old Ongar R.D. which was outside the statutory area of the Herts and Essex Waterworks Company.
(h) The figures include those of the old Stansted Waterworks Company.
(i) Taken over by Tendring Hundred Waterworks Company on 1st April, 1962.
(j) Taken over by Lee Valley Water Company on 1st October, 1963.

FIGURE 1

CHANGE IN AGE STRUCTURE OF POPULATION BETWEEN 1951 AND 1961

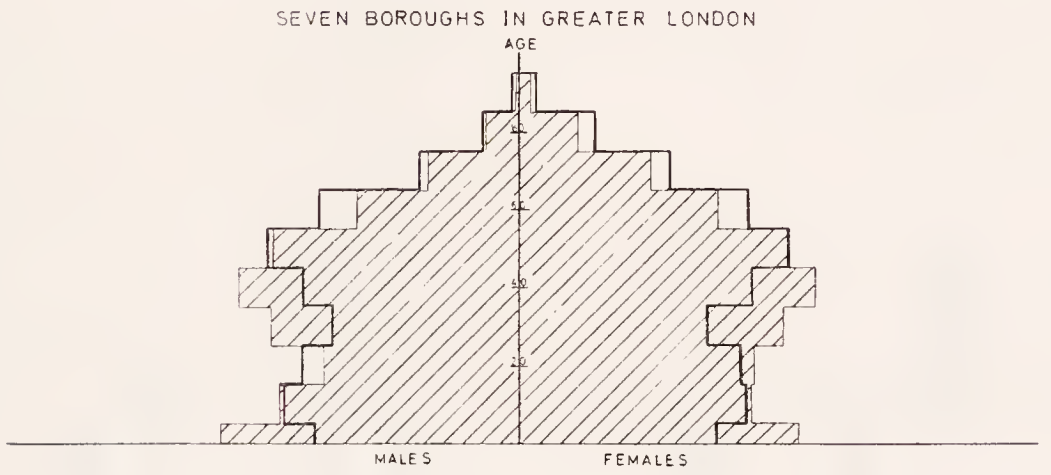
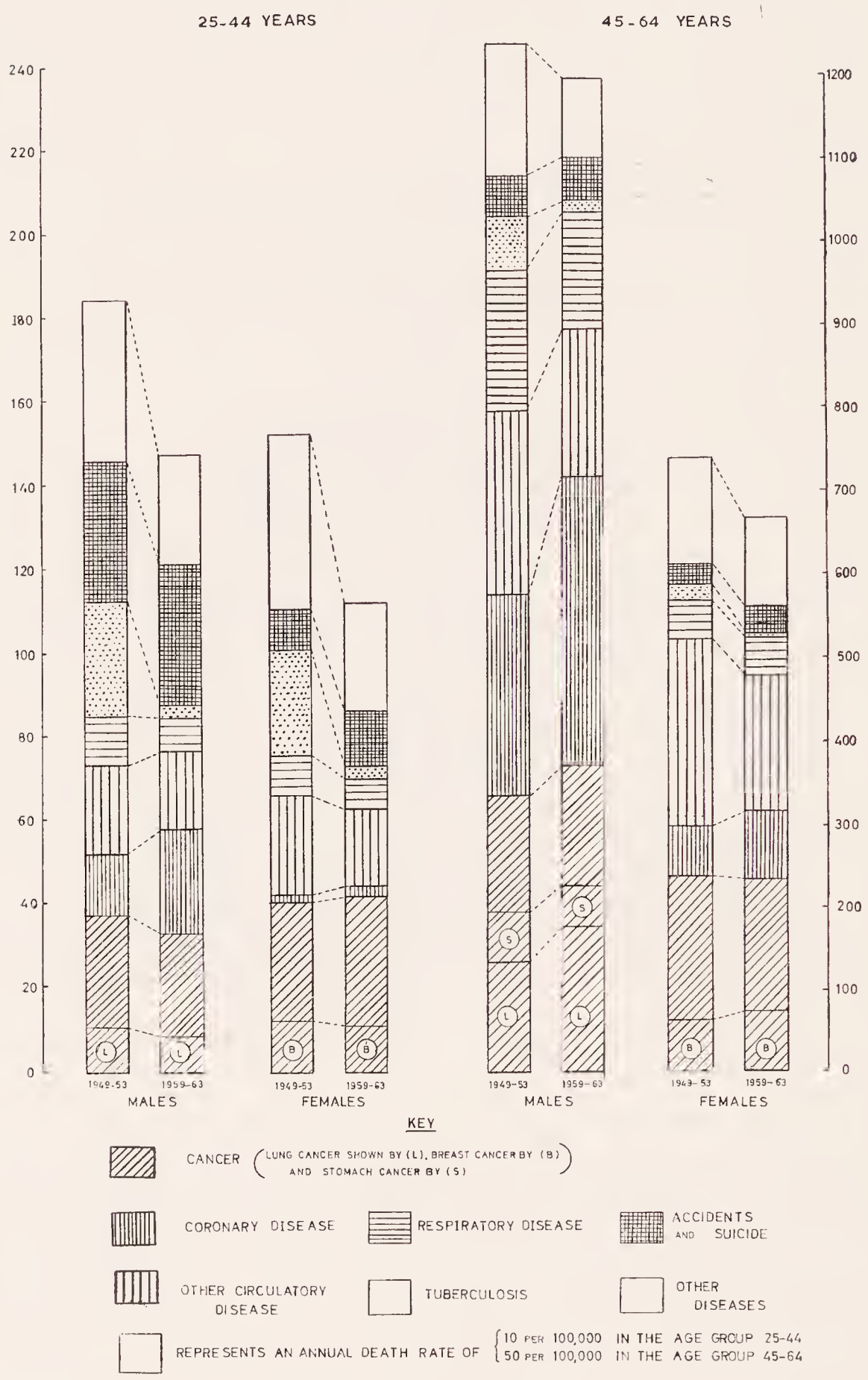


FIGURE 2.

DEATH RATES IN 1949-53 AND 1959-63 OF PERSONS BETWEEN 25 AND 65 YEARS OF AGE



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